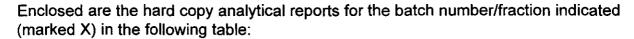


Joan Kessner Bechtel-Hanford, Inc. 3190 Washington Way MSIN H9-03 Richland, WA 99352

Subject: Contract No. 630

Analytical Data Package

Dear Ms. Kessner:



LvLI Batch #	03051 432
SDG#	(H2222)
SAF#	B03-015
Date Received	5-17 -03
# Samples	4
Matrix	Soil
Volatiles	
Semivolatiles	X
Pest/PCB	X
DRO/KRO/GRO	
GC Alcohols	
Herbicides	Χ
Metals	Χ
Inorganics	Χ
44441	**** <u>*********************************</u>

The electronic data deliverable (EDD) will be emailed shortly. If you have any questions, please don't hesitate to contact me at (610) 280-3012.

Sincerely,

ipnyille Laboratory Incorporated

Orlette S. Johnson Project Manager

r:\group\pm\orlette\tnu-hanford\data\b_ltrs.doc



Lionville Laboratory, Inc. BNA ANALYTICAL DATA PACKAGE FOR TNUHANFORD B03-015 H2222

DATE RECEIVED: 05/17/03

LVL LOT # :0305L432

CLIENT ID	LVL	# MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00NL0	001	s	03LE0624	05/13/03	05/23/03	05/27/03
J00NK7	002	S	03LE0624	05/13/03	05/23/03	05/27/03
J00NK7	002	MS S	03LE0624	05/13/03	05/23/03	05/27/03
J00NK7	002	MSD S	03LE0624	05/13/03	05/23/03	05/27/03
J00NK8	003	S	03LE0624	05/13/03	05/23/03	05/27/03
J00NK9	007	S	03LE0624	05/15/03	05/23/03	05/27/03
LAB QC:						
SBLKUB	MB1	S	03LE0624	N/A	05/23/03	05/25/03
SBLKUB	MB1	BS S	03LE0624	N/A	05/23/03	05/25/03



Client: TNU-HANFORD B03-015

LVL#: 0305L432

SDG/SAF # H2222/B03-015

W.O. #: 11343-606-001-9999-00 **Date Received: 05-17-2003**

SEMIVOLATILE

Four (4) soil samples were collected on 05-13,15-2003.

The samples and their associated QC samples were extracted according to Lionville Laboratory QPs based on method 3550 on 05-23-2003 and analyzed according to criteria set forth in Lionville Laboratory OPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 05-25,27-2003.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

- 1. All results presented in this report are derived from samples that met LvLI's sample acceptance
- Samples were extracted and analyzed within required holding time. 2.
- Non-target compounds were detected in the samples. 3.
- Most samples required a 10-fold dilution due to the nature of the sample matrix. The summary form 4. does not reflect the correct dilution factor due to programming limitations. A copy of the Sample Extraction Record has been enclosed (p-23 & 24).
- 5. All surrogate recoveries were within EPA QC limits.
- Two (2) of twenty-one (21) obtainable matrix spike recoveries were outside EPA QC limits. 6.
- 7. All blank spike recoveries were within EPA QC limits.
- The method blank contained the common laboratory contaminants Di-n-butylphthalate and Bis (2-8. Ethylhexyl) phthalate at levels less than the CRQL.
- 9. Internal standard area and retention time criteria were met.
- Manual integrations are performed according to OP 21-06A-125 to produce quality data with the 10. All manual integrations are required to be technically valid and properly utmost integrity. documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").
- I certify that this sample data package is in compliance with SOW requirements, both technically 11. and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Michael Taylor

Lionville Laboratory Incorporated

som\gorup\data\bna\tnu-hanford-0305-432.doc The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 2 4 pages.

GLOSSARY

DATA QUALIFIERS

- U = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.
- J = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
- E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- D = Identifies all compounds identified in an analysis at a secondary dilution factor.
- I = Interference.
- NQ = Result qualitatively confirmed but not able to quantify.
- A = Indicates that a TIC is a suspected aldol-condensation product.
- N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
- Y = Additional qualifiers used as required are explained in the case narrative.



GLOSSARY

ABBREVIATIONS

BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.

BSD = Indicates blank spike duplicate.

MS = Indicates matrix spike.

MSD = Indicates matrix spike duplicate.

DL = Suffix added to sample number to indicate that results are from a diluted analysis.

NA = Not Applicable.

DF = Dilution Factor.

NR = Not Required.

SP, Z = Indicates Spiked Compound.



TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

- MP Missed Peak: manually added peak not found by automatic quan program.
- PA Peak Assignment: quan report was changed to reflect correct peak assignment.
- RI Routine Integration: routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.
- SP Split Peak: the automatic integration improperly split the peak; a manual integration was performed to get the correct area.
- CB Coelution/Background: peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.
- PI Proper Integration: a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.



5

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 05/27/03 11:07

7500 U

7500 U

7500 U

19000 U

3500 U

U

U

U

3500

3500

8800

Work Order: 11343606001 Page: 1a Client: TNUHANFORD B03-015 H2222 RFW Batch Number: 0305L432 J00NK7 JOONK8 JOONK9 JOONK7 JOONK7 JOONLO Cust ID: 007 003 002 MS 002 MSD 001 002 RFW#: Sample SOIL SOIL SOIL SOTT SOTT SOTT Matrix: Information 20.0 10.0 20.0 20.0 40.0 1.00 D.F.: ug/Kg ug/Kg ug/Kg uq/Kg uq/Kg Units: ug/Kg 8 70 왐 67 ž ž 82 ۶. 78 ş 76 Nitrobenzene-d5 88 왛 79 ¥ 73 욯 74 Ŷ 84 82 ¥ 76 Ł 2-Fluorobiphenyl Surrogate 97 욯 98 욯 ջ 왐 107 욯 108 99 Terphenyl-d14 107 왐 Recovery 77 ¥ 72 ş. 83 왐 86 ş Phenol-d5 80 ş 85 9 ş 71 ¥ 81 73 79 ¥ 82 옿 83 2-Fluorophenol 52 55 뫙 옿 59 ۶. 58 ¥ 61 87 왂 2.4.6-Tribromophenol TT 3500 89 왐 86 옿 7500 7500 IJ 330 U Phenol 7500 3500 11 7500 IJ U bis(2-Chloroethyl)ether 7500 U 15000 U 330 Ħ 7500 U 3500 U 82 욯 78 7500 U 2-Chlorophenol 330 U 7500 7500 U 3500 U U 15000 Ū 7500 330 1.3-Dichlorobenzene 7500 U 3500 U U 74 왐 73 왛 7500 330 U 1.4-Dichlorobenzene 7500 U 3500 П U 7500 330 IJ 7500 IJ 15000 1,2-Dichlorobenzene П 15000 U 7500 IJ 7500 U 3500 U 330 11 7500 2-Methylphenol 7500 U 7500 U 3500 U 7500 IJ 15000 U 2,2'-oxybis(1-Chloropropane) Ħ 330 7500 U 3500 U 7500 U 15000 U Ħ 7500 Ħ 3- and/or 4-Methylphenol 330 3500 U 81 કૃ 7500 U 85 ۶ N-Nitroso-di-n-propylamine_____ 330 11 7500 IJ 7500 U 3500 U 7500 U U 7500 U 15000 U Hexachloroethane _____ 330 15000 IJ 7500 U 7500 U 3500 U 330 U 7500 U Nitrobenzene____ 7500 U 3500 U 15000 IJ 7500 П 7500 U 330 ET Isophorone_____ 7500 U 7500 U 3500 U 15000 U 330 IJ 7500 Ħ 2-Nitrophenol_____ 15000 U 7500 U 7500 U 3500 U 330 П 7500 U 2.4-Dimethylphenol 7500 U 3500 U bis (2-Chloroethoxy) methane_____ П 7500 U 15000 IJ 7500 U 330 15000 U 7500 U 7500 U 3500 U 2,4-Dichlorophenol_____ Ħ 7500 U 330 77 왐 75 앟 7500 U 3500 U 7500 U 1,2,4-Trichlorobenzene 330 IJ 7500 U 3500 7500 U 15000 U 7500 U U Naphthalene ______ 330 IJ 7500 U IJ 7500 U 15000 IJ 7500 U 3500 U 330 4-Chloroaniline 15000 U 7500 IJ 7500 U 3500 U 7500 IJ Hexachlorobutadiene_____ 330 H 93 ¥ 86 왛 7500 U 3500 U 4-Chloro-3-methylphenol_____ 7500 U 330 U

7500

7500

7500

19000 U

330 U

330 U

330 U

840 U

U

IJ

U

15000

15000

15000

37000 U

IJ

U

U

7500

7500

7500

19000 U

U

U

Ü

2,4,5-Trichlorophenol

2-Methylnaphthalene_____

Hexachlorocyclopentadiene_____

2,4,6-Trichlorophenol

^{*=} Outside of EPA CLP QC limits.

RFW Batch Number: 0305L432	Client: '	TNUHA	NFORD B03	-015	H2222 1	Work	Order: 113	3436	06 001		Page: 1b	
Cust ID:	J00NL0		J00NK7		J00NK7		J00 NK 7		J00NK8		J00NK9	,
RFW#:	001		002		002 MS		002 MSD		003		007	,
2-Chloronaphthalene	330	U	7500	U	15000	U	7500	U	7500	Ü	3500	U
2-Nitroaniline	840	U	19000	Ü	37000	Ū	19000	U	19000	Ü	8800	Ų
Dimethylphthalate	330	U	7500	U	15000	U	7500	U	7500	U	3500	Ų
Acenaphthylene	330	U	7500	Ū	15000	υ	7500	U	7500	U	3500	U
2,6-Dinitrotoluene_	330	U	7500	U	15000	Ų	7500	U	7500	U	3500	U
3-Nitroaniline	840	U	19000	Ū	37000	U	19000	U	19000	U	8800	U
		U	7500	U	88	ક	81	옿	7500	U	3500	U
Acenaphthene 2,4-Dinitrophenol	840	U	19000	U	37000	U	19000	U	19000	U	8800	U
4-Nitrophenol	840	U	19000	U	D	옿	44	४	19000	U	8800	Ū
Dibenzofuran		U	7500	U	15000	U	7500	U	7500	Ü	3500	U
2,4-Dinitrotoluene	330	U	7500	U	56	*	56	*	7500	U	3500	U
Diethylphthalate	330	U	7500	U	15000	U	7500	U	7500	U	3500	Ū
4-Chlorophenyl-phenylether	330	U	7500	Ü	15000	U	7500	U	7500	U	3500	U
Fluorene	330	U	7500	U	15000	U	7500	U	7500	Ų	3500	U
4-Nitroaniline	840	U	19000	Ū	37000	U	19000	U	19000	U	8800	U
4,6-Dinitro-2-methylphenol	840	U	19000	Ū	37000	Ü	19000	U	19000	U	8800	U
N-Nitrosodiphenylamine (1)	330	U	7500	U	15000	U	7500	U	7500	U	3500	U
4-Bromophenyl-phenylether	330	U	7500	U	15000	Ū	7500	Ū	7500	U	3500	U
Hexachlorobenzene	330	U	7500	U	15000	U	7500	U	7500	Ű	3500	U
Pentachlorophenol	840	U	19000	U	219 *	8	127 *	ક	19000	U	8800	U
Phenanthrene		U	7500	U	15000	U	7500	U	7500	Ū	3500	U
Anthracene	330	U	7500	U	15000	U	7500	U	7500	U	3500	
Carbazole		U	7500	U	15000	U	7500	U	7500	U	3500	U
Di-n-butylphthalate	140	JB	7500	U	15000	U	7500	U	7500	Ü	3500	
Fluoranthene		U	7500	U	15000	U	7500	U	7 500	U	3500	
Pyrene	330	U	7500	U	131	ક	122	왕	7500	Ū	3500	
Butylbenzylphthalate	_ 330	U	7 500	U	15000	U	7500	U	7500	Ŭ	3500	
3,3'-Dichlorobenzidine	_ 330	Ū	7500	U	15000	U	7500	U	7500	U	3500	
Benzo(a)anthracene	_ 330	U	7500	U	15000	Ŭ	7500	U	7500	Ū	3500	
Chrysene	_ 330	U	7500	U	15000	Ų	7500	U	7500	U	3500	
bis(2-Ethylhexyl)phthalate	_ 33	JВ	7500	U	15000	U	7500	Ü	7500	U	3500	
Di-n-octyl phthalate	_ 330	บ	7500	U	15000	U	7500	U	7500	Ū	3500	
Benzo(b) fluoranthene	_ 330	Ü	7500		15000		7500	U	7500		3500	
Benzo(k)fluoranthene	330	U	7500		15000			U	7500	U	3500	
Benzo(a)pyrene	_ 330	U	7500		15000		7500			U	3500	
Indeno(1,2,3-cd)pyrene	_ 330	U	7500		15000		7500			U	3500	
Dibenz(a,h)anthracene	_ 330		7500		15000		7500		7500		3500	
Benzo(g,h,i)perylene	_ 330		7500		15000		490	J	440	J	3500	U
(1) - Cannot be separated from Dip	henylamine	e. *:	= Outside	of	EPA CLP QC	lim	its.					

Lionville Laboratory, Inc.

Semivolatiles by GC/MS, HSL List

Report Date: 05/27/03 11:07 Client: TNUHANFORD B03-015 H2222 Work Order: 11343606001 RFW Batch Number: 0305L432 Page: 2a

	Cust ID:	SBLKUB		SBLKUB BS		
Sample	RFW#:	03LE0624-N	œ1	03LE0624-M	В1	
Information	Matrix:	SOIL		SOIL		
	D.F.:	1.0		1.0		
	Units:	ug/I	ζg	ug/K	g	
	Nitrobenzene-d5	75	8	74	왕	
Surrogate	2-Fluorobiphenyl	70	ક્ષ	69	8	
Recovery	Terphenyl-d14	94	*	89	*	
_	Phenol-d5	69	ક	67	¥	
	2-Fluorophenol	68	ક	68	8	
	2,4,6-Tribromophenol	74	왕	72	8	
	=======================================					fl======fl=====fl=====fl=====fl======fl
Phenol		330	_	66	ક્ષ	
bis(2-Chlor	coethyl)ether			330		
2-Chlorophe	enol	330	U	66	ક્ષ	
1,3-Dichlor	robenzene	330		330	U	
1,4-Dichlor	obenzene	_ 330		68	ક	
1,2-Dichlor	robenzene	330	Ū			
2-Methylphe	enol	330	U	330		
2,2'-oxybis	(1-Chloropropane)	330	U			
	i-Methylphenol		U	330	U	
	di-n-propylamine		U	71	왐	
Hexachloroe	ethane	330	U	330	U	
	ne		U			
Isophorone		330	Ü	330	U	
2-Nitropher	nol	330	U			
2,4-Dimethy	nol ylphenol	330			U	
bis(2-Chlor	roethoxy) methane	330			U	
2,4-Dichlor	rophenol	330	U	330	U	
1,2,4-Trick	nlorobenzene	_	U		ક	
Naphthalene	e	330	U	330	U	
4-Chloroan:	iline	330	U	330	Ŭ	
Hexachlorol	butadiene	330	U		Ų	
4-Chloro-3	-methylphenol	330	U	72	ક	
	phthalene		Ų	330	Ü	
	cyclopentadiene		U	330	U	
	hlorophenol		U	330	U	
2,4,5-Tric	hlorophenol	840	Ų	840	U	
	5					

*= Outside of EPA CLP QC limits.

RFW Batch Number: 0305L432 Client: TNUHANFORD B03-015 H2222 Work Order: 11343606001 Page: 2b

Cust ID: SBLKUB

SBLKUB BS

RFW#: 03LE0624-MB1 03LE0624-MB1

2-Chloronaphthalene	330 U	330 (U
			U
2-Nitroaniline	_	330	
Dimethylphthalate			Ü
Acenaphthylene	-	=	U
2,6-Dinitrotoluene			n O
3-Nitroaniline			o %
Acenaphthene	330 U		u U
2,4-Dinitrophenol			
4-Nitrophenol		·= ·	\$ *
Dibenzofuran		330	
2,4-Dinitrotoluene			*
Diethylphthalate		=	U
4-Chlorophenyl-phenylether			U
Fluorene	330 U		U
4-Nitroaniline		= = =	U
4,6-Dinitro-2-methylphenol			<u>U</u>
N-Nitrosodiphenylamine (1)			Ü
4-Bromophenyl-phenylether			U .
Hexachlorobenzene	330 U		U
Pentachlorophenol			%
Phenanthrene			U
Anthracene			U
Carbazole	330 U	= = -	U
Di-n-butylphthalate	31 J		U
Fluoranthene	330 U	330	
Pyrene	330 U	-	*
Butylbenzylphthalate	330 U	-	U
3,3'-Dichlorobenzidine	330 U	=	Ü
Benzo(a)anthracene			Ū
Chrysene	330 U	330	U
bis(2-Ethylhexyl)phthalate	21 J	330	U
Di-n-octyl phthalate	330 U	330	Ū
Benzo(b)fluoranthene	330 U	330	U
Benzo(k) fluoranthene	330 U		U
Benzo(a)pyrene		330	U
Indeno(1,2,3-cd)pyrene		330	Ŭ
Dibenz(a,h)anthracene		330	U
Benzo(q,h,i)perylene	330 U	330	
(1) - Cannot be separated from D	iphenylamine.	*= Outside o	of EPA CLP QC limits.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

CL	IENT	SAMPLE	NO.		
1					
I Litoo	NT O		-		

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD B03-015 H2222

Matrix: (soil/water) SOIL Lab Sample ID: 0305L432-001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 052611

Level: (low/med) LOW Date Received: 05/17/03

% Moisture: ____0 decanted: (Y/N)__ Date Extracted: 05/23/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 05/27/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

CONCENTRATION UNITS:

Number TICs found: 5 (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=======================================				
1.	UNKNOWN	4.396	80	J
2.	ALDOL CONDENSATE	4.779	300	JA
3.	ALDOL CONDENSATE	5.361	20000	JAB
4.	ALDOL CONDENSATE	6.605	200	JA
5.	UNKNOWN	21.081	200	J
İ				

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JOONK7			

CLIENT SAMPLE NO.

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD B03-015 H2222

Matrix: (soil/water) SOIL Lab Sample ID: <u>0305L432-002</u>

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D052612

Level: (low/med) LOW Date Received: <u>05/17/03</u>

% Moisture: <u>11</u> decanted: (Y/N)__ Date Extracted: 05/23/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 05/27/03

Dilution Factor: 20.0 Injection Volume: 2.0(uL)

GPC Cleanup: (Y/N) N pH: __7.0

CONCENTRATION UNITS: Number TICs found: 2 (ug/L or ug/Kg) ug/Kg

				i
CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=======================================		======	=========	=====
1.	19 - 36 MINUTES	1		
2.	UNRESOLVED HYDROCARBONS			
3.	ALDOL CONDENSATE	5.159	30000	JAB
4.	UNKNOWN	22.170	3000	J
İ			!	

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

i	
1	
JOONK8	

CLIENT SAMPLE NO.

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD B03-015 H2222

GPC Cleanup: (Y/N) N

Matrix: (soil/water) <u>SOIL</u> Lab Sample ID: <u>0305L432-003</u>

Sample wt/vol: 30.0 (g/mL) GLab File ID: <u>D052615</u>

Level: (low/med) LOW Date Received: 05/17/03

% Moisture: <u>11</u> decanted: (Y/N)__ Date Extracted: <u>05/23/03</u>

Concentrated Extract Volume: 1000(uL) Date Analyzed: 05/27/03

Dilution Factor: 20.0 Injection Volume: 2.0(uL)

рн: <u>7.0</u>

CONCENTRATION UNITS:

Number TICs found: <u>5</u> (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=======================================		=====	=======================================	=====
1.	19 - 36 MINUTES			
2.	UNRESOLVED HYDROCARBONS	!		1
3.	ALDOL CONDENSATE	5.204	30000	JAB
4.	UNKNOWN	21.437	2000	J
5.	UNKNOWN	22.176	2000	J
6.	UNKNOWN	22.915	2000	J
7.	UNKNOWN	25.793	4000	J
1		1 '		

CLIENT SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

l				
1	J00NK9			
1				

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD B03-015 H2222

Matrix: (soil/water) SOIL Lab Sample ID: 0305L432-007

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D052616

Level: (low/med) LOW Date Received: 05/17/03

% Moisture: ____5 decanted: (Y/N)__ Date Extracted: 05/23/03

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 05/27/03

Injection Volume: 2.0 (uL) Dilution Factor: 10.0

·

GPC Cleanup: (Y/N) N pH: $\frac{7.0}{}$ CONCENTRATION UNITS:

Number TICs found: $\underline{1}$ (ug/L or ug/Kg) $\underline{ug/Kg}$

1. 19 - 36 MINUTES	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	=======	19 - 36 MINUTES	==== : 		====
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		UNRESOLVED HYDROCARBONS			i
3. ALDOL CONDENSATE 5.205 9000 JAB	3.	ALDOL CONDENSATE	5.205	9000	JAB

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

1			
!			
CRI.KIIR			

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNUHANFORD B03-015 H2222

Matrix: (soil/water) SOIL

Lab Sample ID: 03LE0624-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D052513

Level: (low/med) LOW

Date Received: 05/23/03

CLIENT SAMPLE NO.

% Moisture: ____ decanted: (Y/N)__

Date Extracted: 05/23/03

Concentrated Extract Volume: 1000(uL) Date Analyzed: 05/25/03

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH: <u>7.0</u>

Number TICs found: 3

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST.	CONC.	l Q
=======================================		======	=====		
1.	UNKNOWN	4.014	1	100	J
2.	ALDOL CONDENSATE	5.353		5000	JA
3.	UNKNOWN	6.692		200	J
		l <u></u>			<u> </u>

Lionville Labor	ratory L	Jse Only	Cust	ody 1	ran	sfe	r F	Rec	ord	/L	ab '	Wo	rk	Re	qu	ies	T Pag	ge	01	<u> </u>	-			/1	ı
030	<u> 5 L4</u>	32		FIELD	PERS	ONNE	L: C	OMPL	ETE O	NLY	SHAL	ED /	AREA A	.		Ċ.			D	E	•		CHONVE	HE LORONZ	TORY INC
Client	NU	Herrore	9 BC	13-015	5			Refrige	erator#				2					= 7		F					<u>₹</u>
Est. Final Pro								#/Turn	Contain		Liquid														
Project #	()	1343-60	6. 001-	9999-	<i>0</i> 0			алура	Contain		Solid		اعم	lae	1	lan			رمع	100		(ag	10		
Project Conte	ict/Phor	ne #		·			_	Volum			Liquid			<u>'</u>		<u>'</u>									
Lionville Lab						unde	<u>س</u>				Solid	_ _	190	asp	H	ass			60	190		120		٠	
ac spec	==	Del 51)	TAT	700	<u>(d)</u>		==	Preser	rvatives		<u> </u>	<u> </u>	090	ANIC	<u> </u>	 - -				RG	}}	<u></u>	<u> </u> _		-
Date Rec'd	5.17	· હ 3	. Date Due	5-	24-0)		REQUI	YSES ESTED		-	δV		PCB PCB	Feb	18				135 255	1	S. Hide	產		
MATRIX	1	}				Mat	rix	 	T	\neg					Ţ	-	Lionvill	e Lai			e Only		1	 	
CODES: S - Soil SE - Sediment SO - Solid SL - Studge	Lab ID		Client ID/Des	eription		Cho:	sen ')	Matrix	Date Collec	- 1	Time Collected		0625H	2668 I	OHBEN	ORB			Meretro	TCATO		ISFD	1040	1	
W - Water	001	J001	VLO					S	5.13	03/0	<i>Y00</i>		X						×					\top	
A - Air DS - Drum	003	J001	1K7					1	\prod_{λ}	ť	OGRC		X	X	X				X	X		X			
Solids DL - Drum	003								1 7	- [7		X	Х	X				X	X		X			
Liquids	004	1							5.W	B	0830		X			L			X						
Leachate WI - Wipe	005										OPPC		X			X			X						
X - Other	006	1	-								1_		X			X			X						
F FISH	007								515	(13)	1220		X	X		1			X	X		X		۷	
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												L		<u> </u>	<u> </u>	<u> </u>								<u> </u>	<u> </u>
Special Instruct	ions:	SAF	# Bo3	-015		ı	DATE/	REVISIO	NS:												Lionvilk	Labor	ratory Use	Only	
P	un	Matrix			lse - 00	- (4) - -			1 2 3 4 5										1) Ha Aid — 2)	and Del rbill # _ Ambier Receiv	ed 🗸 🖰	NOT NOT NOT NOT NOT NOT NOT NOT NOT NOT	1) Pres Packag 2) Unb Packag 3) Pres	Resistant sent on (Outer or N n Outer or N Sample or N
									6	==:								===		Sample operty 1	es Preserve	.d		or Decord B	
Relinquished	7	Received	Date	Time	Rei	iinquisi by	hed		Receive	מל"	RIGI	3 ¹ 2 !	Tin	10			s Betwe				(P) or	N		lecord P Sample i	Rec't
Seo Cx	1,0	Inie	25.17.0	71155		.01		em.			WR		N		COC	Recon	beis and 17 Y or	\bigcirc		Receiv T gnibk	ved Within Times (Y) or		Cooler Temp.	A 3	or N }_•c
		7)				W	AS	5							19	ره ه	<u> </u>	91	70/	<u> </u>	<u>8~-</u>	<u> 19a</u>	250	_	<u> 333</u>

Bechtel Hanfor	rd Inc.	CI	HAIN OF CUST	CODY/S	AMI	<u>PLE</u>	ANA	LYSI	N C	EVUESI		_ ·		<u></u>	
Collector Fahlberg			nv Contact tankovich	Telepho 531-7						roiect Coordii ESSNER, JH	P P	rice Code	8B	Data Tu	ł
Project Designation Remaining Sites Confirmation	n Sampling-Soil	Sampl 600	ing Location -139							AF No. 03-015	A	ir Quality		7 L	Payso
Ice Chest No. ERC 9	6039	Field I EL1	Logbook No. 577		CO/ C17 1	A IXU67	1C			ethod of Ship Fed EX	ment	·—			
Shipped To TMA/RECRA		Offsite	Property No.	030	23,	/			Bi	ill of Lading/	Air Bill No	Sele	OSP (
POSSIBLE SAMPLE HAZA	RDS/REMARKS			}				A		1		1	,	[
Non-Rad Area, No Activity Rep	oort Required		Preservation	None	Coo	i 4C	Cool 4C	11				<u> </u>		<u> </u>	
 	toroge		Type of Container	aG	a	G	₽G								
	C00 4°C		No. of Container(s)	1	1	ا ا	1			<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>
	C80 1 -		Volume	60mL	120	mL	60ml	-{		1			1	{	
	SAMPLE ANALY	sis		See item (1) in Special Instructions.	Semi-\ #270A		NON SERVICE SE			-					
Sample No.	Matrix *	Sample Date	Sample Time	11 24			4974-52	24 9	Service.	in Marine Indian	200	1	5,000	Jan 5	Ge est
JOONLO	SOIL	5.13.0	3 0900	×	×					 	<u> </u>	ļ	ļ		
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	L				ֈ		 -			-}		}	<u>}</u>	}	
	<u> </u>			<u> </u>	ا _			ببل			<u></u>		<u> </u>	<u> </u>	
CHAIN OF POSSESSION Relinquished By/Removed From		ate/Time /4.		SPECIAL INSTRUCTIONS (1) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV)							um, Silver};	Matrix * S=Soil SE=Sediment			
Relinguished By/Removed From REF 3A 3728	.,	(,							SO=Solid SI=Sludge W = Water O=Oil A=Air						
Relinquished By/Removed From	Date/Time 603 1100	Received By/Stor	EX												OS=Drum Solids OL=Drum Liquids
Relinguished By/Removed From	Date/Time	n : > n /m	10 7 10 Ment	Date/Time 7-03 1\55							T=Tissue W(=Wipe L=Lkquid				
Relinquished By/Removed From	Date/Time	Received By/Sto	ed In D	Date/Time Personnel not available to relinquish samples from the 3728								V=Vegetation X=Other			
Relinquished By/Removed From	Date/Time	Received By/Stor	ed In D	ate/Time		Ŗ	.et# <u>3</u> /	4 on <u>*</u>	<u>5 /(</u>	16103					
LABORATORY Received By SECTION	y	_ 		Ti	ile					· · · · · · · · · · · · · · · · · · ·			Γ	ate/Time	•
FINAL SAMPLE Disposal M DISPOSITION	ethod						Di	spased By	, ,					Date/Time	!
	 														

Bechtel Hanfor	d Inc.	C	HAIN OF CUST	ODY/S	AMPL	E ANALY	YSIS	R	EQUEST		B03	-015-98	Page 1	of <u>1</u>
Collector Fahlberg			anv Contact tankovich	Telephor 531-76					oiect Coordia ESSNER, JH	acor	Price Code	8B	Data Tu	гвагонв
Project Designation Remaining Sites Confirmation	n Sampling-Soil		ling Location -139						AF No. 03-015	A	ir Quality		7 E	Days -\
Ice Chest No. ERC	16 039	1	Logbook No. 577		COA C17HX	U671C			ethod of Ships Fed EX					
Shinned To TM (RECRA)		Offsit	Property No. Ac	302	231	· 		Bi	ill of Lading/A	Air Bill No	SEE	OSP	<u>`</u>	·
POSSIBLE SAMPLE HAZA	RDS/REMARKS		{	{	{			1	/		1	1 1		ł į
Non-Rad Area, No Activity Rep	oort Required		Preservation	None	Cool 4C	Cool 4C	Cool	4C	Cool 4C	Cool 4C	<u> </u>			
Special Handling and/or S	torage		Type of Container	aG l	aG	aG	aG	4	aG	aG 1				
C001	400		No. of Container(s)					1						
			Volume	60mL	240mL	. 120mL	60m	7	120mL	120mL		1]
	SAMPLE ANALY	YSIS	L	See item (1) in Special Instructions.	PCBs - 808 Pesticides 8081; Chlor Herbicides EPA8151	#270A (TCL)	VOLUMENTS.) \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Total Cyanide - 90:				
Sample No.	Matrix *	Sample Date	Sample Time		er en		£ 44	Š.	And the	\$-11- \ 73 -9	5 - 635		ing on the	(6, 38 -1), 3 7-1
JOONK7	SOIL	5-13-0	3 0920	<u>×</u>	<u> </u>	X	1		X	X	<u> </u>			
JOONK8	SOIL	5.13-0	3 0920	×	×	X	1		1×	<u> </u>		<u> </u>		
:					 		/		41					<u> </u>
				ļ	<u> </u>		 				-\			<u> </u>
				<u> </u>	<u> </u>		<u> </u>		11		<u> </u>	<u> </u>		
CHAIN OF POSSESSIO		Sign/Prin		ite/Time 14		ECIAL INSTR	UCTIC	ONS	5					Matrix *
Relinguished By/Removed From	Date/Time /43	Received By/Sto		3.03	(1)) ICP Metals - 601 ercury - 7471 - (C		lient .	List) (Arsenic, B	arium, Cad	mium, Chromiun	n, Lead, Selenii	un, Silver);	S=Soil SE=Sediment
Relinquished By/Kemoved From	Date/Time	Received By/Sto	red in Da	ite/Time)	ercury - 7471 - (C	٧,						;	SO-Solid Si-Studge W = Water
	51603 1100			03]]	िव									0-08 A-Air
Relinquished By/Removed From	603 (100	Received By/Sto	EX											DS=Drum Solids DL=Drum Liquids
Relinquished By/Removed From	Date/Time	Descriped B./Sto.	ed in Da	ite/Time									:	T=Tissec W1=Wipc
	1703 1155	1 AX		7-03 115 ne/Time	2 	Personna	not a	vail	lable to					L=Liquid V=Vegetation X=Other
Relinquished By/Removed From	Date/Time	Received By/Sto	rea un			Ref#	n samp A on	iles S	from the 3728	} 3				
Relinquished By/Removed From	Date/Time	Received By/Sto	red In Da	ate/Time										
LABORATORY Received By SECTION				Tù	ie							D.	ate/Time	
FINAL SAMPLE Disposal Me DISPOSITION	ethod					Dispo	sed By					D	ate/Time	
<u></u>														

Doug Bowers Mike Stankovich 372 Project Designation Remaining Sites Confirmation Sampling-Soil Sampling Location 600-181 oil dump area Field Logbook No. EL-1578 Shipped To- Offsite Property No.	COA C17HXU671C	Project Coordinator KESSNER, JH SAF No. B03-015 Method of Shipment Fed Ex Bill of Lading/Air Bill	Price Code 8B	Data Turnaroun 7 Days
Remaining Sites Confirmation Sampling-Soil 600-181 oil dump area Ice Chest No. ERC 99 055 Shipped To- Offsite Property No. 4073	C17HXU671C	B03-015 Method of Shipment Fed Ex		/ Days
Shipped To- Shipped To- Offsite Property No. 1973	C17HXU671C	Fed Ex		i
	323.2	Bill of Lading/Air Bill		
TMORECRA : 17000	· · · · · · · · · · · · · · · · · · ·	<u> </u>	INO. SEE OS	PC
POSSIBLE SAMPLE HAZARDS/REMARKS	1 1 /		\$	
None Preservation	Cool 4C Cool 4C			
Type of Container aG	aG aG			
Special Handling and/or Storage No. of Container(s)	1 1			
Volume 60mL	120mL 60mL			
See item (1 Special Instruction	s. \$270A (TCL) (TGL)			
Sample No. Matrix * Sample Date Sample Time				
JOONPO SOIL 5-14-03 0830 X	XXX			
	-}}-			
	<u> </u>			
CHAIN OF POSSESSION Sign/Print Names	SPECIAL INSTRUCTI	IONS		Matrix *
Relinquished By/Removed From 1 649 Date/Time Received By/Stored In Date/Time Date/Time Ref 3 A 3728 1-14-03/1/	(1) ICP Metals - 6010TR (6 Mercury - 7471 - (CV)	(Client List) (Arsenic, Barium, (Cadmium, Chromium, Lead, Selen	nium, Silver); S-Solit SE-Setiment SO-Solid
Relinquished By/Removed From Date/Time Received By/Stored by Date/Time	ool Dana	tuse fo	r 94./90	
Relinquished By/Removed From Date/Time Received By/Stored In Date/Time SJGALEN Jol 5 1603 1100 FED EX	· 00 Kg		. 44./ 40	DS-Drum Solids DL-Drum Liquids
Relinquished By/Removed From Date/Time Received Hy/Sopred In Date/Time Received Hy/Sopred In Date/Time 5.17.03 \\ \(\sigma \)	5			T-Tissue Wj-Wipe L-Liquid
Relinquished By/Removed From Date/Time Received By/Stored In Date/Time	Personnel not availab relinquish samples fro Ref # 3 on 5	ble to Om the 3728		V=Vegetation X=Other
Relinquished By/Removed From Date/Time Received By/Stored In Date/Time	Kei # Zion S	116103		
LABORATORY Received By SECTION	Title			Date/Time
FINAL SAMPLE Disposal Method DISPOSITION	Disposed By	,		Date/Time

Bechtel Hanfor	rd Inc.		Company Contact Telephone No. Project Coordinator							Page 1	of 1								
Collector Doug Bowers		C			ontact kovic			one N -9082					Project Coord KESSNER, JH	nator	Pri	ice Code	8B	Data Tu	rnarou 6
Project Designation Remaining Sites Confirmatio	n Sampling-Soil	s	ampli	ng L	ocatio							7	SAF No. B03-015		Ai	r Quality)ays
Ice Chest No. ERC 9	9 055	F	ield L EL-1		ok No),			COA 17HXU6	671C		Ì	Method of Shir Fed Ex						
Shipped To- TM4/RECRA		C	Msite	Prop	erty l	No. A	030	2_	-37	, 			Bill of Lading	'Air Bill	No.	5 <i>E</i> (3/C		
POSSIBLE SAMPLE HAZA	RDS/REMARKS							\top											}
					Prese	rvation	None	1	Cool 4C	Coel 4	Co	ol 44	ic 40C	<u>L</u>					
0	·		Ī	Ty	pe of	Container	aG	7	aG	aG		aG	26						
Special Handling and/or S	otorage		Ì	No.	of Co	ontainer(s)	1	7	1	1	\neg	1	7						
			Ī		Vol	lume	60mL	T	250mL	120m	. 60)mI	L 60 m						
	SAMPLE ANAL	YSIS					See item (1) Special Instruction	s. P 80 H	CBs - 8082; Pesticidey- 081; Choro- lerbicides - EFA8151		CT) (1	CL) (++++1) +18.						
Sample No.	Matrix *	Sample	Date		Sar	mple Time		*			· · · · · · · · · · · · · · · · · · ·		W STATE	种类	2.4	4774			22/2
J00NN7	SOIL	5-14-	03			900	X		<u> </u>	X		_		<u> </u>					
JOONN8	SOIL	5-14.	<u>. وع</u>		0	400	Y	_	X	_X_		_		<u> </u>					
JOONNO	30IL							Ŀ						<u> </u>					
1000 7-14-03								- -		<u> </u>	-}	_		<u> </u>	_		-		<u> </u>
CHAIN OF POSSESSION Sign/Print N					<u>-</u>		<u> </u>		CDE	CIAL IN:	TRUCT		INC .	<u></u>				 -	Matrix *
Relinquished By/Removed From 0 0 49 Date/Time Received By/Stored In							Pate/Time		٦ -	-				n · .		G: :		611	S=Soil
Bourg Bowers Bowers 5-14-03/1130 RCF 3 A 3728 5-1								10		ce metals ary - 7471		(CH	ient List) (Arsenic,	Darium, C	-Section)	um, Caroanau	i, Leau, Sejemu	m, Saver);	SE=Sediment SO=Solid
Relinquished By/Removed From Date/Time Received By/Stored In A						_ 5/	Date/Time 607 //	00											SI-Sludge W = Water O-Oil
Relinquished By/Removed From Date/Time Received By/Stored in SIGNUS SIGNUS FEDEX						ly/Stored in Date/Time							A=Air DS=Drum Solids DL=Drum Liquids						
Relinquished By/Removed From Date/Time Received By/Stared In							Date/Time 7.0円(C	55	-		:11.1	L1_	- •a						T=Tissue Wl=Wipe L=Liquid
Relinquished By/Removed From Date/Time Received By/Stored In						ate/Time		Pe τel	rsonnel r iinquish	amples fi	ron	m the 3728 6103						V=Vegetation X=Other	
Relinquished By/Removed From	Date/Time	Received B	Sy/Store	ed In		Ī	Pate/Time		7 8	CI# <u>~//</u>	ַ װע <u>. ביי</u>		<u> </u>						
LABORATORY Received B	у	- I		 '				Title	 .								Da	nte/Time	•
FINAL SAMPLE Disposal M DISPOSITION	ethod						<u> </u>			Ē	isposed By		- -	٠.		 -	D	ate/Time	

Collector Fablberg Command Contact Method of Shipment Froiest Designation Remaining Sites Confirmation Sampling-Soil Ece Chest No. EC 9 6 0 3 9 Field Logbook No. ELLSTO ELLSTO Shipmed To. TMARECRA) Preservation Non-Rad Area, No Activity Report Required Special Handling and/or Storage Type of Container(s) Sample No. Matrix * Sample Date Sample Time Command To. Sample No. Matrix * Sample Da	aroyang nys (
Remaining Sites Confirmation Sampling-Soil 600-139 Field Leebook No. EL 1577 Fod EX Shipped ID. TMARECRA Offsite Property No. AC 3 C 2 3 Bill of Lading/Air Bill No. SET OSP POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Preservation Type of Container No. of Container(s) Type of Container(s) No. of Container(s) See item (1) in PCBs. 1602; See item (2) in PCBs. 1602; See item (3) in PCBs. 1602; See item (4) in PCBs. 1602; See item (5)	iys(\)
Shipped Io	
Shipped To TMA(RECRA) POSSIBLE SAMPLE HAZARDS/REMARKS Non-Rad Area, No Activity Report Required Preservation Type of Container Type of Container(s) No. of Container(s) Volume See item (1) in Special Instructions. Special Instructions. Special Instructions. Special Instructions. Special Instructions. Special Instructions. See item (1) in Special Instructions. Special Instructions. See item (1) in Special Instructions. Special Instructions. See item (1) in Special Instructions. Special Instructions. See item (1) in Special Instructions. Special Instructions. See item (1) in Special Instruc	
Preservation Preservation Preservation Special Handling and/or Storage Out of the first structures of the structures of the structures of the structures of the structures of the structures of the structures of the structures of the structures of the structure of the structures of the structure of the struct	
Preservation Preservation Preservation Preservation AG aG aG aG aG aG aG aG	
Special Handling and/or Storage Type of Container	1
No. of Container(s) RINDINGS RUNDINGS	
Volume See item (1) in PCBs - 8082; Semi-VOA - 8270A (TCL) Special Instructions. See item (2) in PCBs - 8081; Chloro-Herbicides - EPAS151 Sample No. Matrix * Sample Date Sample Time See item (1) in PCBs - 8082; Semi-VOA - 8270A (TCL) A18.1 Sulfides - 9030 Cyanide - 9010 Cyanide	
SAMPLE ANALYSIS Sample No. Sample Date Sample Date Sample Time Special Instructions Special Instructions Special Instructions Festicides - 8081; Chlorother bicides - EPAB151 Cyanide - 9010 Cyanide - 9010 Sample No. Matrix * Sample Date Sample Time	
	{
CHAIN OF POSSESSION Sign/Print Names SPECIAL INSTRUCTIONS	Matrix *
Relinquished By/Removed From Date/Time 1530 Received By/Stored In 3 A Date/Time 1530 (I) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Received By/Stored In 3 A Date/Time 1530 (I) ICP Metals - 6010TR (Client List) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); Mercury - 7471 - (CV)	=Sail E=Sediment O=Salid
Relinquished By/Removed From Date/Time Received By/Stored In Date/Time	i-Sludgs V = Water
Relinquished By/Removed From Date/Time Received By/Stored in Date/Time S. CALE NICOL 51603 1100 FED FX	Air SDrum Solids LDrum Liquids
Retinquished By/Removed From Date/Time Received Ry/Stored In Date/Time	=Tissue /1=Wipe =Liquid =Vegetation
Relinquished By/Removed From Date/Time Received By/Stored In Date/Time relinquish samples from the 3728	-Other
Relinquished By/Removed From Date/Time Received By/Stored In Date/Time Ref # 34 on 5/16/03	
LABORATORY Received By Title Date/Time SECTION	
FINAL SAMPLE Disposal Method Disposed By Date/Time DISPOSITION	

Bechtel Hanford Inc.	CH	IAIN O	F CUST	ODY/S	AMPLE	ANALY	/SIS	REC	UEST		B03	-015-102	Page	of 1
Collector Doug Bowers		ny Contact Stankovich		Telephon 372-90					t Coordina NER, JH	tor	rice Code	8B	Data Tur	
Project Designation Remaining Sites Confirmation Sampling-Soil		ng Location 181 oil dum						SAF N B03-0		A	ir Quality		7 D	ays
Ice Chest No. ERC 99 055	Field L EL-1	ogbook No. 578			COA C17HXU6	71C		Fed						
Shipped To TM ORECRA	Offsite	Property N	io. Ac	30	232			Bille	f Lading/Ai	ir Bill No	588	0576	<u> </u>	
POSSIBLE SAMPLE HAZARDS/REMARKS				}			l	_ }			}]]		
		Preser	vation	None	Cool 4C	Cool 4C	Cool	4C	1°C					
C Was an Man Shares		Type of C	ontainer	aG	aG	aG	aG	,	ab					
Special Handling and/or Storage]	No. of Co	ntainer(s)	1	ī	1	1)		T			
		Volu	ume	60mL	250mL	120mL	60п	ıl 6	, 0 m/					
SAMPLE ANALYSIS	1			See item (1) in Special Instructions.	PCBs - 8082; Pesticides - 8081; Chloro- Herbicides - EPA8151	Seni-VOA - 8270A (TCL)	VOA - 8 (TCI	L) [†	PH . otal					
Sample No. Matrix * San	ple Date	Sam	ple Time											
JOONNZ X 1A SOIL]						<u> </u>			
JOHNB 5-14-03 SOIL					<u> </u>						<u> </u>	<u> </u>		
J00NN9 SOIL 5-	7-0	1 13	00	X	_X_	X		_	$X \perp$					
							L							
				<u> </u>	<u> </u>		<u> </u>	L			<u> </u>		L	
	Sign/Print				SPE	CIAL INSTR	UCTIO	ONS					,	Matrix *
Relinquished By/Removed From Date/Time Rece REF 3A 3728 51603 1100 S	ved By/Ston yed By/Ston SALU ved By/Ston	1720	8 1-17 5160	ate/Time 1 - 4 3 / 6 ate/Time 2 ate/Time	Silve	CP Metals - 60 r]; Mercury - 7	10TR (C 471 - (C	lient List V)) (Arsenic, Ba	arium, Cadı	nium, Chromiu	m, Lead, Seteniu	im,	S=Soli SE=Sediment SO=Solid SI=Sludge W = Water O=Oil A=Air
Cilidatica Diversa fed Loui	<u>() (</u>	-X-												DS=Drum Solids DL=Drum Liquids
	ived By/Stor	mur mur	15.7											T=Tissue WI=Wipe L=Liquid V=Vegetation
Relinquished By/Removed From Date/Time Rece	ived By/Sto	rd In	Da	ate/Time		ersonnel nor elinquish sar	t availa nples fi	ble to rom the	3728				;	X=Other
Relinquished By/Removed From Date/Time Rece	ived By/Stor	ed In	D	ate/Time	I	elinquish sar lef# <u>34</u> 0	n <u>5</u>	16	107				<u> </u>	
LABORATORY Received By SECTION				Tie	le							D.	ate/Time	
FINAL SAMPLE Disposal Method DISPOSITION						Dispo	sed By					Ω	ate/Time	

LIONVILLE LABORATORY INCORPORATED SAMPLE RECEIPT CHECKLIST

LIENT:

TNU Hanford

urchase Order/Project:

DATE:

5.17.03.

AF# SOW# / Release #:

B03-015

.aboratory SDG #:

NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION Custody seals on coolers or shipping D No DNA see Comment # container intact, signed and dated? Outside of coolers or shipping containers are Σ9Υ·Ω D No DNA ☐ see Comment # free from damage? Airbill # recorded? D No See Comment # All expected paperwork received (coc and D)Yes D No □ N/A See Comment # other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid) Sample containers are intact? D Yes □ No DWA ☐ see Comment # Custody seals on sample containers intact, ₽Yes D No. DINA ☐ see Comment # signed and dated? All samples on coc received? ∕Ó Yes D No D N/A D see Comment # 🕅 Yes D No D N/A see Comment # All sample label information matches coc? Laboratory QC samples designated on coc? □ Yes □ No ANG)CP 🗅 see Comment # (OC stickers placed on bottles?) 10. Shipment meets LvLl Sample Acceptance D No D N/A Sec Comment # Policy? (identify all bottles not within policy. See reverse side for policy) 11. Where applicable, bar code labels are □ Yes D No DANA D see Comment # affixed to coc? 12 Yes □ No D N/A ☐ see Comment # 12. coc signed and dated? Yes-13. coc will be faxed or emailed to client? D No DNA Sec Comment # 14. Project Manager/Client contacted 图 N/A ☐ Yes □ No see Comment # concerning discrepancies? (name/date)

Cooler # / temp (°C) and Comments:

ELC 99 055 / 0.8°
ERC 96 039 / 0.3°C

Laboratory Sample Custodian:

Laboratory Project Manager:

Nitura. O

22

SAMPLE EXTRACTION RECORD

Sheet no.: 1

Extract. Date: 05/23/03

Extraction Batch No: 03LE0624

Analyst: MF

Method: SONC

Test: 0625

Cleanup Date:

Analyst:

Client: TNUHANFORD B03-015 H2222

LIMS Report Date: 05/27/03

Solvent: DCM/ACETONE

Adsorbent:

		(Client Name		рН	Initial		_			Split	GPC		C/D
Sample	No:		Client ID			WT/VOL	Mult.	Mult.	AOL	VOL	.Mult.	Y/N	Solids	FACTOR
305L432			TNUHANFORD B03-015	H2222		•								
	001	Н	J00NL0		7	30.0	1.0		1.0		0.5	N	100.00	16.7
	002	Н	JOONK7		7	30.0	1.0		2.0		0.5	N	89.34	37.3
	002	HS	J00NK7		7	30.0	1.0	1.0	4.0		0.5	N	89.34	74.6
	002	HT	J00NK7		7	30.0	1.0	1.0	2.0		0.5	N	89.34	37.3
	003	Н	J00NK8		7	30.0	1.0		2.0		0.5	N	88.74	37.6
	007	Н	J00NK9		7	30.0	1.0		1.0		0.5	N	94.63	17.6
305L434	-		TNUHANFORD B03-024	H2216										
	001	Н	J00P13		7	30.0	1.0		1.0		0.5	N	99.91	16.7
	002	Н	J00NT5		7	30.0	1.0		1.0		0.5	N	98.96	16.8
	003	H	J00NT6		7	30.0	1.0		1.0		0.5	N	98.33	16.9
:	004	H	J00NT7		7	30.0	1.0		1.0		0.5	N	98.71	16.9
	004	HS	J00NT7		7	30.0	1.0	1.0	1.0		0.5	N	98.71	16.9
	004	HT	J00NT7		7	30.0	1.0	1.0	1.0		0.5	N	98.71	16.9
	005	H	J00NT8		7	30.0	1.0		1.0		0.5	N	98.46	16.9
	006	Н	J00NT9		7	30.0	1.0		1.0		0.5	N	99.14	16.8
305L449	-		TNUHANFORD B03-017	H2225										
	001	Н	J00NL4		7	10.0	1.0		1.0		0.5	N	99.25	50.4
305L450	-		TNUHANFORD B03-019	H2224										
-	001	Н	J00NP0		7	30.0	1.0		1.0		0.5	N	99.98	16.7
	002		J00NN7		7	15.0	1.0		2.0		0.5	N	95.85	69.6
	003	Н	J00NN8		7	15.0	1.0		1.0		0.5	N	95.60	34.9
•	004	Н	J00NN9		7	30.0	1.0		1.0		0.5	N	87.88	19.0
:	004	HS	J00NN9		7	30.0	1.0	1.0	1.0		0.5	N	87.88	19.0

Comments:

Surrogate: 500 UL ESU BNA 89914005 @100-150 UG/ML Spike: 500 UL EMS BNA 89912203 @100-150 UG/ML

Extracts Transferred Relinquished By	Date Time	Received By	Date Time	Reason for	Transfer
(ancellal R.I Asis 12618)					

Lionville Laboratory, Inc.

SAMPLE EXTRACTION RECORD

Sheet no.: 2

Extract. Date: 05/23/03 Extraction Batch No: 03LE0624

Analyst: MF

Method: SONC

Test: 0625

Cleanup Date:

Analyst:

Client: TNUHANFORD B03-015 H2222

LIMS Report Date: 05/27/03

Solvent: DCM/ACETONE

Adsorbent:

Sample No:	Client Name Client I		рН	Initial WT/VOL		_			Split Mult.			C/D FACTOR
305L450-	TNUHANFORD	B03-015 H2224						<u></u>				
004	HT JOONN9		7	30.0	1.0	1.0	1.0		0.5	N	87.88	19.0
3LE0624-MB1	H SBLKUB		7	30.0	1.0		1.0		0.5	N	100.00	16.7
03LE0624-MB1	HS SBLKUB		7	30.0	1.0	1.0	1.0		0.5	N	100.00	16.7

Comments:

Surrogate: 500 UL ESU BNA 89914005 @100-150 UG/ML 500 UL EMS BNA 89912203 @100-150 UG/ML Spike:

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer
Cancelled AI R	pus/27/13		! !	<u> </u>	



Lionville Laboratory, Inc. PEST/PCB ANALYTICAL DATA PACKAGE FOR TNUHANFORD B03-015 H2222

DATE RECEIVED: 05/17/03

LVL LOT # :0305L432

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00NK7	002	s	03LE0597	05/13/03	05/19/03	05/24/03
J00NK7	002 MS	s	03LE0597	05/13/03	05/19/03	05/24/03
J00NK7	002 MSD	s	03LE0597	05/13/03	05/19/03	05/24/03
J00NK8	003	s	03LE0597	05/13/03	05/19/03	05/24/03
J00NK9	007	s	03LE0597	05/15/03	05/19/03	05/24/03
LAB QC:						
PBLKUJ PBLKUJ	MB1	S	03LE0597	N/A	05/19/03	05/23/03
	MB1 BS	S	03LE0597	N/A	05/19/03	05/23/03

945/19/5



Analytical Report

Client: TNU-HANFORD B03-015 W.O. #: 11343-606-001-9999-00

LVL #: 0305L432 Date Received: 05-17-03

SDG/SAF #: H2222/B03-015

PESTICIDE

The set of samples consisted of three (3) soil samples collected on 05-13,15-03.

The samples and their associated QC samples were extracted on 05-19-03 and analyzed according to Lionville Laboratory OPs based on SW846, 3rd Edition procedures on 05-23,24-03. The extraction procedure was based on method 3540 and the extracts were analyzed based on method 8081A.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

- 1. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
- 2. All required holding times for extraction and analysis have been met.
- 3. All samples and their associated QC samples received Florisil and Sulfur cleanups.
- 4. The method blank was below the reporting limits for all target compounds.
- 5. Three (3) of four (4) obtainable surrogate were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
- 6. Four (4) of six (6) blank spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
- 7. Matrix spike recoveries were unobtainable due to the dilution required for analysis.
- 8. All samples required 50-fold instrument dilutions due to the high concentrations of non-target analytes. Reporting limits have been adjusted to reflect the necessary dilutions.
- 9. All initial calibrations associated with this data set were within acceptance criteria.
- 10. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 16 pages.

11. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.

Iain Daniels

Laboratory Manager

Lionville Laboratory Incorporated

pef\r:\group\data\pest\tnu hanford\05L-432.pes



Lionville Laboratory Sample Discrepancy Report (SDR) SDR #: 036c 154
Initiator: Rruce Souters Batch: 03051431,432,450 Parameter: Clost Matrix: Soil Client: The Method: SWE45MCAWW/CLP/ Prep Batch: 030547,0611
1. Reason for SDR a. COC Discrepancy Tech Profile Error Client Request Sampler Error on C-O-C Transcription Error Wrong Test Code Other b. General Discrepancy Missing Sample/Extract Container Broken Wrong Sample Pulled Label ID's Illegible Hold Time Exceeded Insufficient Sample Preservation Wrong Received Past Hold Improper Bottle Type Not Amenable to Analysis Note*: Verified by [Log-In] or [Prep Group] (circle)signature/date: C. Problem (Include all relevant specific results; attach data if necessary) (1) High Spille and Survegate recovery in Mark (osceriles in BS (osceosis, see affached). Sample Contain hifs. 2) High survegate recovery in Mark (osceosis, extracted of 450-oot MS, MSD).
3. Discussion and Proposed Action Re-log Entire Batch Following Samples: Re-leach Re-extract Re-digest Revise EDD Change Test Code to Place OntTake Off Hold (circle) 4. Project Manager Instructionssignature/date Concur with Proposed Action Disagree with Proposed Action; See Instruction Include in Case Narrative Client Contacted: Date/Person Add Cancel 5. Final Actionsignature/date: Verified re-[log][leach][extract cigest][analysis] (circle) Included in Case Narrative Hard Copy COC Revised
Electronic COC Revised EDD Corrections Completed When Final Action has been recorded, forward original to QA Specialist for distribution and filing. Route Distribution of Completed SDR X Initiator Metals: Beegle Inorganic: Perrone X Project Mgr: Stone/Johnson/Haslett X Technical Mgr: Wesson/Daniels — MS: Rychlak/Layman
X QA (file) Log-in: Melnic Admin: Soos Sample Prep: Beegle/Kiger Other:



GLOSSARY OF PESTICIDE/PCB DATA

DATA QUALIFIERS

- U = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
- Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
- E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- I = Interference.

ABBREVIATIONS

- BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD = Indicates blank spike duplicate.
- MS = Indicates matrix spike.
- MSD = Indicates matrix spike duplicate.
- DL = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
- NA = Not Applicable.
- DF = Dilution Factor.
- NR = Not Required.
- SP = Indicates Spiked Compound.



GLOSSARY OF PESTICIDE/PCB DATA

- This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
- This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- C = This flag applies to a compound that has been confirmed by GC/MS.

Pesticide/PCBs by GC, CLP List

RFW Batch Number: 0305L432 Client: TNUHANFORD B03-015 H2222 Work Order: 11343606001 Page: 1

PBLKUJ JOONK8 JOONK9 JOONK7 JOONK7 Cust ID: J00NK7 03LE0597-MB1 003 007 002 MS 002 MSD 002 RFW#: Sample SOIL SOIL SOIL SOIL SOIL Matrix: SOIL Information 1.00 50.0 50.0 50.0 50.0 50.0 D.F.: UG/KG UG/KG UG/KG UG/KG UG/KG UG/KG Units: % D * 115 D 8 D કૃ Surrogate: Tetrachloro-m-xylene ¥ D ۶. 135 * % D D D ş. D ¥ D 옿 Decachlorobiphenvl 88 U 1.7 U 94 II 93 [] 93 U 93 U Alpha-BHC _____ 94 U 88 U 1.7 U 93 U 93 U 93 U Beta-BHC _____ 1.7 U 94 U 88 U 93 U 93 U 93 U Delta-BHC 88 U 1.7 U 옿 94 U gamma-BHC (Lindane)_____ 93 U ٧ D 1.7 U 88 U ş D 2 94 U 93 U Heptachlor D 1.7 U ş. 94 U 88 U D ş. 93 U Aldrin 88 U 1.7 U 93 U 94 U Heptachlor epoxide_____ 93 IJ 93 U 88 U 1.7 U 93 U 94 U 93 U 93 U Endosulfan I_____ 180 U 3.3 U 왐 D 왐 190 U 190 U Dieldrin_____ 3.3 U 190 U 190 U 180 U 190 U 190 U 4,4'-DDE_____ 180 U 3.3 U D * 190 U D 옿 Endrin_____ 190 U 180 U 3.3 U 190 U Endosulfan II 190 U 190 U 190 U 3.3 U 190 U 180 U 190 U 190 U 190 U 4,4'-DDD 3.3 U 190 U 190 U 180 U 190 U Endosulfan sulfate 190 U 180 U 3.3 U 190 U D 옿 D 왐 190 U 4.4'-DDT 17 U 940 U 880 U 930 U 930 U 930 U Methoxychlor ____ 180 U 3.3 U 190 U 190 U 190 U 190 U Endrin ketone_____ 180 U 3.3 U 190 U 190 U Endrin aldehyde_____ 190 U 190 U 94 U 88 U 1.7 U 93 U 93 U 93 U alpha-Chlordane_____ 1.7 U 94 U 88 Ŭ 93 U gamma-Chlordane_____ 93 U 93 U 9400 U 8800 U 170 U 9300 U 9300 U 9300 U Toxaphene

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

gestales

Report Date: 05/27/03 15:21

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 05/27/03 15:21

RFW Batch Number: 0305L432 Client: TNUHANFORD B03-015 H2222 Work Order: 11343606001 Page: 2

Cust ID: PBLKUJ BS

Sample RFW#: 03LE0597-MB1

Information Matrix: SOIL

> D.F.: 1.00 Units: UG/KG

Offics:	UG/ KG
Surrogate: Tetrachloro-m-xylene	130 * %
Decachlorobiphenyl	150 * %
***********	flflflflflfl
Alpha-BHC	1.7 U
Beta-BHC	1.7 U
Delta-BHC	1.7 U
gamma-BHC (Lindane)	124 %
Heptachlor	128 * %
Aldrin	118 %
Heptachlor epoxide	1.7 U
Endosulfan I	1.7 U
Dieldrin	133 * %
4,4'-DDE	3.3 U
Endrin	148 * %
Endosulfan II	3.3 U
4,4'-DDD	3.3 U
Endosulfan sulfate	3.3 U
4,4'-DDT	135 * %
Methoxychlor	17 Ü
Endrin ketone	3.3 U
Endrin aldehyde	3.3 U
alpha-Chlordane	1.7 U
	1.7 U
Toxaphene	170 U
gamma-Chlordane	1.7 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC



Lionville Labor	ratory U	se Only Custody Tran	sfe	r F	Rec	ord/L	_ab \	۷o	rk	Re	qu	es	t Page	1_	of_	1		5		I 1.
030	<u>5L4</u>	FIELD PERS	ONNE	L: C	OMPLI	ETE ONL	Y SHAD	ED /	AREA A	s		c		D	, !	E	F			ROPATORY INC
Client T	Nu	Henribed B03-015			Refrige	rator #	 ,		2					 	1				G	
Est. Final Pro	J. Samp	iling Date			#/Type	Container	Liquid								\perp					
Project #	()	CO- PPP-100. 000- EPE					Solid	<u> </u>	اعم	lae	4	104		la	للع	24	امم		100	
Project Conta				~	Volume	•	Liquid	 -		<u> </u>					4		_			
	_	Project Manager Onlitte Joh	mar	<u> </u>	Preserv	ethroe	Solid	}	190	a 55	-1-	357		60		20	130		60	
OC SEC	-	Del 510 TAT 70aya		=	FIESER	Alives	ــــــــــــــــــــــــــــــــــــــ	 -	ORG	ANIC				 	NOR	G G	- 	-	-	
Date Rec'd	5.17	03 Date Due 5-24-0	3		ANALY REQUE		-	δ V		Pest/ PCB	Herb	RB			3		S.Fa		西	
MATRIX			Mat	rix						·	Ţ		Lionville	Labora	ator	Use (ţ		
CODES: S - Soil SE - Sediment SO - Soild	Lab ID	Client ID/Description	Cho:	sen ')	Matrix	Date Collected	Time Collected		0625H	0608 H	OHBGY	okB		Morato	D Royal C	TCANO	ISFD		IPHC	
SL - Sludge W - Water	001	JOONLO			S	5.13.03	ven		X					×	1					
O - Oil A - Air	003	JOON KT			1	1	0920		X	X	×			X	1	×	X			
DS - Drum Solids	003	- 				1	7		×	X	X			X		X	X			
DL - Orum Liquids	004	200NBO				5.4B			X					T×						
L - EP/TCLP Leachate	005						0900		X			X		Tx						
WI - Wipe X - Other	006	· · · · ·			1	1	1_		X			X		×						
F- Fish	007					51503	1220		X	X				X		X	X		$\sqrt{\mathbf{x}}$	
		JOONNA			1	1	1300		X	X				$\exists x$					X	
	حيرے																			
	 																	<u></u>		
Special Instruct	tions:	SAF # B03-015	1	DATE/	REVISION	NS:										Lio	nville Labo	oratory	Use On	ly
R	lun	Matrix QC (Do Not Use-00	- (4) -			1 2 3								_ _	1) SI Hand Airbi	ples wer hipped - d Deliver	or	1) Pa 2) Pa	Present ickage Unbroke ickage	tant Seal was: on Outer or N n on Outer or N
			- - 			5 6								- {	3) Ri Cond 4) Si	eceived ition it	or N	4) Sa	Unbroke umple (*	

Relinquished Received Date Time Relinquished by Time COMPOSITE WASIE

Discrepancies Between Samples Labels and COC Record? Y or N NOTES:

(Y) or N 5) Received Within Holding Times
(Y) or N

Upon Sample Rec't Cooler 0.3

Bechtel Hanfor	rd Inc.	CI	HAIN OF CUST	ODY/S	<u>AMPLE</u>	ANAL						<u></u>	
Collector Fahlberg		Telephor 531-70				Proiect Coordi KESSNER, JH	nator	Price Code	8B	Data Tu			
Project Designation Remaining Sites Confirmatio	n Sampling-Soil		ing Location -139					SAF No. B03-015		Air Quality			Days ———
Ice Chest No. ERC 9	6039		Logbook No. 1577		COA C17HXU6	571C		Method of Ship Fed EX	ment				
Shipped To- TMA/RECRA		Offsite	e Property No.	0300	231			Bill of Lading/	Air Bill N	o. See	OSP (<u></u>	
POSSIBLE SAMPLE HAZA Non-Rad Area, No Activity Re			Preservation	None	Cool 4C	Cool 4C			[
Special Handling and/or S	Storage		Type of Container	aG	aG	aG 1							
•	C00 4°C		No. of Container(s) Volume	60mL	120mL	60mJ		-		-			
	SAMPLE ANAL	ysis		See item (1) in Special Instructions.	Semi-VOA - 8270A (TCL)	VOA - \$60A (TO F) 81 - 8							
Sample No.	Matrix *	Sample Date	Sample Time	克纳拉			5. 33					Tay 18	
JOONLO	SOIL	5.13.0	3 0900	×-	<u> </u>	├ /	├		 -		 -	 	
	<u> </u>				<u> </u>	1/							
											 		
CHAIN OF POSSESSIO	I I	Sign/Prin	t Names	<u> </u>	SPE	CLAL INST	RUCTIO	NS .	<u>i</u> .		<u> </u>	.i	Matrix *
Relinguished By/Removed From R. F. LLL R. F. h.15	Date/Time 1431	Received By/Sto	red in 728 5.	ate/Time 14.	So (1) 1		DIOTR (CI	ient List) (Arsenic,	Bariun, Ca	dmium, Chromiu	m, Lead, Scien	ium, Silver};	S=Soit SE=Sediment SO=Solid SI=Studge
Relinquished By/Removed From Relinquished By/Removed From SJGALEMAL 5	51603 1100 Date/Time	Received By/Sto	FIRE 5160		00					W = Water O=Ott A=Air DS=Drum Solids			
Relinquished By/Removed From	1603 1100 Date/Time	Received By Sto	red In D	ate/Time									DL=Drum Liquid T=Tissue Wl=Wipc L=Liquid
Relinquished By/Removed From	Date/Time	Received By/Std	red in D	ate/Time		Personnel n relinquish s	amples f	vailable to cles from the 3728					V=Vegetation X=Other
Relinquished By/Removed From	Date/Time	Received By/Sto	ored In D	ate/Time		Ref# 3A	on <u> </u>	16103					
LABORATORY Received E SECTION	Зу			Ti	tle		-				1	Date/Time	
FINAL SAMPLE Disposal N DISPOSITION	Method					Disp	osed By					Date/Time	

Fahlberg M Project Designation Same	anv Contact Stankovich	Telephon 531-76				Prois							
1 - 01-01		331-70	520			Project Coordinator KESSNER, JH			Price Code 8B		Data Tur	ì	
Remaining blees Continuation Sampling Son	ling Location)-139					SAF 1 B03-0		A	Air Quality		7 D	7 Days	
	Logbook No. 1577		COA C17HX	U671C		Fee	od of Ships i EX						
TM_(RECRA)	e Property No. Ac	302	31	· 		Bill	of Lading/	Air Bill No.	SEE	OSF) <u> </u>	, 	
POSSIBLE SAMPLE HAZARDS/REMARKS	}	}	1	j		_ /\		_]		}		
Non-Rad Area, No Activity Report Required	Preservation	None	Cool 4C		Cool	-41	Cool 4C	Cool 4C			 		
	Type of Container	åG	aG	aG	aG	'IL	aG .	aG 			l		
Special Handling and/or Storage	No. of Container(s)	ì	1	ì	ī	II	l	1					
	Volume	60mL	240mL	, 120mL	60m	1	120mL	120mL					
SAMPLE ANALYSIS		See item (1) in Special Instructions	PCBs - 808 Pesticides 8081; Chlor Herbicides EPA8151	8270A (TCL)	VOA - 1	7397	iulfides - 9030	Total Cyanide - 9010					
Sample No. Matrix * Sample Date	Sample Time						11/2/2017				7.基本多	Tropic Print	
J00NK7 SOIL 5-13-4	0920	×	X	Х	Щ.		Х	X	<u> </u>	ļ			
J00NK8 SOIL 5 . 13 - 6	3 0920	_ ×	×	×_	 	}	X	<u>X</u>	ļ		}	ļ.——-	
		 	 		 -				 			 	
			 		 			,	 	 	 		
CHAIN OF POSSESSION Sign/Pri	nt Names		SP	ECIAL INSTR	UCTIO	ONS				<u> </u>		Matrix *	
Relinquished By/Removed From Date/Time 1430 Received By/St	ored in D: 3 7 2 8 5 · 1	ate/Time 14 3.0 >	30 (1)) ICP Metals - 601 lercury - 7471 - (C	10TR (C		t) (Arsenic, I	Barium, Cadn	nium, Chromius	n, Lead, Seleni	um, Silver);	S=Soil SE=Sediment SO=Solid SI=Sindge	
	53/Jel-516		100									O-OH O-OH	
Relinquished By/Removed From Date/Time Received By/St 2/6ALE 3/602 1100 FED	EX											DS=Drum Solids DL=Drum Liquids T=Tissue	
Relinquished By/Removed From Date/Time Received By/St		ate/Time	است									WI=Wipe	
	7-03 115 ate/Time	2-1	Personne	el not a	vailab	le to					V=Vegetation X=Other		
Relinquished By/Removed From Date/Time Received By/Si				Ref#	on sam	ples tro	om the 372 1 <u>1610</u>	8 <u>3</u>					
Relinquished By/Removed From Date/Time Received By/S	ored In D	ate/Time											
LABORATORY Received By SECTION		Ti	tle								Date/Time		
FINAL SAMPLE Disposal Method DISPOSITION				Dispo	sed By						Date/Time		

Bechtel Hanf	ord Inc.	CI	HAIN OF CUST	CODY/S	AMPLE	ANAL	YSIS	RE	EQUES		Bus	-012-103	1 ugu ±	<u> </u>
Collector Doug Bowers			any Contact e Stankovich	Telepho 372-9					iect Coordi SSNER, JH	nator P	rice Code	8B		rnaround
Project Designation Remaining Sites Confirmat	ion Sampling-Soil		ing Location -181 oil dump area	 _					F No. 3-015	Ai	ir Quality		/ 1	Days
Ice Chest No. ERC	99 055		Logbook No. 1578		COA C17HXU6	71C		F	thod of Shir					
Shipped To TM (RECRA)	:	Offsite	e Property No.	030	232	<u> </u>		Bill	l of Lading	Air Bill No.	SE	osj	2 _	
POSSIBLE SAMPLE HAZ	ARDS/REMARKS						Λ			ĺ	Ì	Ì	[1 1
			Preservation	None	Cool 4C	Cool 4C	H =			İ	<u> </u>	<u> </u>	<u> </u>	<u> </u>
	S.		Type of Container	aG	aG	aG								
Special Handling and/or	Storage		No. of Container(s)	1	1	1						<u> </u>		
			Volume	60mL	120mL	60ml			<u> </u>	 				
	SAMPLE ANAL	ysis		See item (1) in Special Instructions.	Semi-VOA - \$270A (TCL)		۸۱							
Sample No.	Matrix *	Sample Date	Sample Time	中學也與	**	7.1	H.U	8/0	1.4		全面的	X 12 14	70.50 E	AND 12 (\$70.00)
JOONPO	SOIL	5-14-03	0830	Х	_X_	/ X	75		 -	<u> </u>	 	 -	<u> </u>	<u> </u>
		: 		 		 	+			 				
		 _												
CHAIN OF POSSESS		Sign/Prin			SPE	CIAL INST	RUCTI	ONS						Matrix *
Relinquished By/Removed From I	Prs 5-14-43/1136 Date/Time	Received By/Stor	3728 5-14		Merc	шу <i>- 7</i> 471 - ((CV)				ium, Chromiun		, ,	S=Soll SE=Sediment SO=Solid SI=Sludge W = Water
Relinquished By/Removed From SJGALENDEL	Date/Time 51603 1100	Received By/Stor		3 (C ate/Tune	<u>) () </u>	Do	not	Γ 4	No.	ron	QA.	/ Q.C	•	O=Oil A=Air DS=Drum Solids DL=Drum Liquids
Relinquished By/Removed From	Date/Time	Received Hy/Sto		ate/Time B 1157										T=Tissue Wt=Wipe L=Liquid
Relinquished By/Removed From	Date/Time	Received By/Stor	ed In Da	ate/Time		rsonnel not inquish san f # 3 or	availabi iple <u>s f</u> ro	le to on the	3728					V=Vegetation X=Other
Relinquished By/Removed From	Date/Time	Received By/Stor	red In Da	ate/Time		1# <u>>/1</u> 01	<u>/_د_</u>	16	<u>103</u>					
LABORATORY Received SECTION	Ву		 	Ti	ile							Γ	ate/Time	
FINAL SAMPLE Disposal DISPOSITION	Method					Disp	posed By				· · · · · · · · · · · · · · · · · · ·	Ī	Date/Time	

Bechtel Hanfor	d Inc.		CH	IAI	N O	F CUST	CODY/S	<u>AM</u>	PLE	ANALY	YSIS	R	EQUEST		B03-	-015-102	Page 1	of 1
Collector Doug Bowers	······		Compa Mike		ontact kovici		Telepho 372-9		•				roject Coordin ESSNER, JH	ator Pr	ice Code	8B	Data Tu	1
Project Designation Remaining Sites Confirmation	ı Sampling-Soil		Sampli 600-			n ıp area							AF No. 03-015	Ai	r Quality		7 1	ays
Ice Chest No. ERC 99	055		Field L EL-1		ok No) .		C0 C17	A HXU6	71C		1_	lethod of Shipn Fed Ex					
Shipped To- TMA/RECRA			Offsite	Prop	ertv N	No. A	030	2	32	=		В	Bill of Lading/A	ir Bill No.	5EF (os/c		
POSSIBLE SAMPLE HAZA	RDS/REMARKS												1					
]	Prese	rvation	None	Co	ol 4C	Cool 4C	Cool	l 4C	400			<u> </u>		
				Ty	pe of (Container	aG		aG	aG	aG	3	26					
Special Handling and/or Se	torage		Ì	No.	of Co	ntainer(s)	1		1	1	1		1					
					Vol	ume	60mL	25	0mL	120mL	60m	nL	60 ml					
	SAMPLE ANAL Sample No. Matrix * N7 SOIL						See item (1) in Special Instructions.	Pesi 8081; Herb	i - 8082; icider - Cidero- picides - A8151	Semi-VOA - 8270A (TCL)	VOA - 8 (TC		^					
Sample No.	Matrix *	Samp	e Date		Sar	mple Time		2, 5	3	4.730					1500		9-5-英倉	****
J00NN7	SOIL	5-14	03			900			<u> </u>	X					<u> </u>			
J00NN8	SOIL	5-14	و ١		٥	900	L Y	<u> </u>	<u> </u>	X								
JOONING	30IL							<u> </u>										<u> </u>
10 00 7-14-03							 								 		 -	
Green or possession		C:	n/D-in	Non			<u> </u>		CDE/	CLAI DICTED		ON			<u> </u>	<u> </u>	<u> </u>	Matrix *
CHAIN OF POSSESSIO			n/Print By/Stor		ics		ate/Time		1	CIAL INSTR								S=Soli
Hong Bower Bow	11/5-14-03/11)	PRC	F 3	4	72	8 5-14-	03/11)	0		CP Metals - 601 ury - 7471 - (C'		Clien	nt List) (Arsenic, E	Barium, Cadm	ium, Chromiui	n, Lead, Seleni	um, Silver);	SE=Sediment SO=Solid
Relinquished By/Removed From REF 3A 37 Z8	Date/Time 51603 11 00	Receive SJ6	By/Stor	ed In	11		ate/fime	0										SI=Sludge W = Water O=Oil
Relinquished By/Removed From	Date/Time 1603 1100	Receive	By/Stor	ed In	<u> </u>		ate/Time											A=Alr DS=Drum Solids DL=Drum Liquids
Relinquished By/Removed From	Date/Time	Receive	ByStar	ed In	۱ سان		ate/Time	<u> </u>	D _P	rsonnel not a	vailab'	ole t	to					T=Tissue WI=Wipe L=Liquid V=Vegetation
Relinquished By/Removed From	Date/Time	Receive	d By/Stor	ed In		Ι	Pate/Time		rel	inquish sam	ples fro	om	the 3728			•		X=Other
Relinquished By/Removed From	Date/Time	Receive	d By/Stor	ed In		Γ	Date/Time] ```	,, ,, <u></u> ,,								
LABORATORY Received B	y						Т	itle								Ţ.	Date/Time	
FINAL SAMPLE Disposal M DISPOSITION	ethod			_						Dispo	sed By]	Date/Time	

Bechtel Hanford	d Inc.	CI	IAIN OF CUST			E ANALY						· · · · · · · · · · · · · · · · · · ·	1	
Collector Fahlberg			inv Contact tankovich	Telephor 531-70					ect Coordii SNER, JH	P	rice Code	8B		rnaround
Project Designation Remaining Sites Confirmation	Sampling-Soil	Samol 600	ing Location -139					SAF B03		A	ir Quality		7 [Days
ice Chest No. ERC 90	6039	Field I EL1	Logbook No. 577		COA C17HXU	J671C		Fe	hod of Ship ed EX					
Shipped To		Offsite	Property No. AC	30Z	31	`		Bill	of Lading/	Air Bill No	588	03/	<u>ک _</u>	
POSSIBLE SAMPLE HAZAR	RDS/REMARKS				G. alaG	Contac	Cool 4	. A	Cool 4C	Cool 4C	Cool 4C			
Non-Rad Area, No Activity Repo	ort Required		Preservation	None	Cool 4C	Cool 4C	L001 4		C0014C		 			
			Type of Container	аG	aG	aG	aG	Ш	aG	a·G	aG			
Special Handling and/or St		ı	No. of Container(s)	l	rinshi	1	1	II	ì	1	} _ ¹			
			Volume	60mL	240mL 250 ~ (120mL	60m1		60mL	120mL	120mL			
	SAMPLE ANALY	SIS		See item (1) in Special Instructions.		- 8270A (TCL)	VOA - 8 (TC)		TPH (Total) - 418.1	Sulfides - 903	Total Cyanide - 9010			
Sample No.	Matrix *	Sample Date	Sample Time	ne le s		* 4.3	in 🖳	ar A	Carria do		1.5		Zille Stel	81.5
JOONK9	SOIL	5.15.03	1200	X	K	X				X	<u> ~ </u>	<u> </u>	<u> </u>	
					<u> </u>		Ц	_		 _	 	ļ	ļ	}
							! /			ļ	 	}	 	}
					 		//			 -	 		 	
				<u> </u>			<u> </u>	1		<u> </u>	<u> </u>	<u> </u>	<u> </u>	
CHAIN OF POSSESSION Relinquished By/Removed From RECOO RELID Relinquished By/Removed From REF 3H 3728 Relinquished By/Removed From SJGALE WOOLS	Date/Time 530 5-15-03 Date/Time 51603 100	Received By/Stor	ed in 30 D. 3728 5-18 ed in D. 2/22-1-516 ed in D.	ate/Time 15	(1) Med	ECIAL INSTR ICP Metals - 60: recury - 7471 - (C	10TR (Cli		ist) (Arsenic,	Barium, Cadu	nium, Chromiu	n, Lead, Seleni	ium, Silver};	Matrix * S-Soil SE-Sediment SO-Solid SI-Sludge W - Water O-Oil A-Air DS-Drum Solids DL-Drum Liquids T-Tissue
Relinquished By/Removed From Relinquished By/Removed From Relinquished By/Removed From	Date/Time 17 08 1155 Date/Time	Received By/Stor	ed In D	o3 115" ate/Time		Personnel no relinquish san Ref # 3/2 o	moles fr	om ť	he 3729					WI=Wipc L=Liquid V=Vegetation X=Other
LABORATORY Received By		1	<u> </u>	T	itle								Date/Time	-
SECTION FINAL SAMPLE Disposal Me	<u></u>					Dispo	ised By						Date/Time	

Bechtel Hanford Inc.	CH	<u>IAIN</u>	OF CUST	ODY/S/	<u>ampl</u>	<u>.Ε Α</u>	NAL Y	<u> </u>	KEOUE	<u> 51</u>	 	DV3-	015-102	rage 1	
Collector Doug Bowers	Compa Mike	nv Coi Stank		Telephon 372-90					Project Coo KESSNER,		Pri	ce Code	8B	Data Tur	ì
Project Designation Remaining Sites Confirmation Sampling-Soil	Sampli 600-		cation I dump area						SAF No. B03-015		Air	Quality		7 D	ays
Ice Chest No. ERC 99 055	Field L EL-		k No.		COA C17HXI	U671C	:		Method of S Fed Ex						
Shipped To TMATRECRA	Offsite	Prope	ertv No. AO	30	257	Z			Bill of Lad	ing/Air Bi	11 No.	56E	osp c	, 	
POSSIBLE SAMPLE HAZARDS/REMARKS	1				}		}		_	}	į	!	ļ	ļ	}
	ļ	Р	reservation	None	Cool 4C		Cool 4C	Cool	7						
Special Handling and/or Storage		Тур	e of Container	aG	aG		aG .	aG	96					<u> </u>	
	Į	No.	of Container(s)	1	1		1	1)					<u> </u>	
			Volume	60mL	250mL	-]	120mL	60m	L 60m	1					
SAMPLE ANALYSIS				See item (1) in Special Instructions.	PCBs - 808 Pesticides 8081; Chlo- Herbicides EPA815	s - 821 oro- s -	mi-VOA - 70A (TCL)	VOA - 8. (TCI		1					
Sample No. Matrix * Samp	ole Date		Sample Time											4.	
JOONNY 4 4A SOIL													<u> </u>	<u> </u>	
JOONNE 5-14-03 SOIL				<u> </u>						_ _		<u>-</u>		 	
J00NN9 SOIL 5-1	7-0	2	1300	<u> </u>	LX_		χ		X					<u> </u>	<u> </u>
	<u> </u>		·		<u> </u>	-		ļ						 	<u> </u>
					<u> </u>								<u> </u>	<u> </u>	N-1
	ign/Print ed By/Stor		D.	ite/Time /			L INSTR								Matrix *
Relinquished By/Removed From Dovey Date/Time Received A aug/formers Jonath 5-19-09/1470 R.		<u>"</u> ">	238 1-19	-47/G	2 2 d (1) ICP N	Metals - 60	10TR (C	lient List) (Ars	enic, Barium	, Cadnu	um, Chromius	n, Lead, Selen	iium,	S=Soil SE=Sediment
Date/Time Receiv	ed By/Stor	red In	Da Da	ite/Time	311	iiver}; M	nercury - 1	4/1 - (C	v)						SO=Solid SI=Sludge
REF 3A 3728 51603 1100 SJ	GALO	W/W	Jel- 5160	03 100	<u> </u>										W = Water O=Oil
Relinquished By/Removed From Date/Time Received SUPALEN 1261-51603 1100 FC	ed By/Stor	red (n	Da	ite/Time											A=Air DS=Drum Solids DL=Drum Liquids
Relinquished By/Removed From Date/Time Receiv		red In	JM 5.7.	nte/Time	-										T=Tissue WI=Wipe L=Liquid
	ed By/Stor		D;	ate/Time		Perso	onnel not	availa	ble to						V=Vegetation X=Other
Relinquished By/Removed From Date/Time Receiv	red By/Stor	red In	Da	ate/Time		Ref #	# <u>34</u> 0	n <u>5</u>	rom the 3728	<u>.</u>					
LABORATORY Received By SECTION				Ti	tle									Date/Time	
FINAL SAMPLE Disposal Method DISPOSITION							Dispo	sed By						Date/Time	

	LIONVILLE LABOI				
	SAMPLE RE Thu Hanford Order/Project: SOW#/Release #: B03-015	СЕІРТ СН	ECKLIST	DATE:	5-17-03
	ory SDG #: 0305L43	- '' .2			
VOTE:	ALL ENTRIES MARKED "NO" MUST BE I	EXPLAINED IN	THE COMM	ENT SECTION	
1.	Custody seals on coolers or shipping container intact, signed and dated?	15/Yes	. D No .	D N/A	see Comment #
2.	Outside of coolers or shipping containers are free from damage?	Yes (□ No	□ N/A	see Comment #
3.	Airbill # recorded?	Yes	□ No	D N/A	See Comment
4.	All expected paperwork received (coc and other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid)	Yes	□ N₀	D N/A	see Comment
5.	Sample containers are intact?	Ly Yes	□ No	□ N/A	D see Comment to
6.	Custody seals on sample containers intact, signed and dated?	Yes	D No	□ N/A	see Comment
7.	All samples on coc received?	/Ó Yes	□ No	□ N/A	□ see Comment
8.	All sample label information matches coc?	Yes	□ No	□ N/A·	see Comment
9.	Laboratory QC samples designated on coc? (QC stickers placed on bottles?)	☐ Yes	□ No	DONA	☐ see Comment
10.	Shipment meets Lvll Sample Acceptance Policy? (identify all bottles not within policy. See reverse side for policy)	TS Y es	□ No	□ N/A	□ see Comment
11.	Where applicable, bar code labels are affixed to coc?	□ Yes	□ No	DANIA	D see Comment
12.	coc signed and dated?	Yes Yes	□ No	D N/A	See Comment
13.	coc will be faxed or emailed to client?	™Yes•	□ No	DNA	☐ see Comment
14.	Project Manager/Client contacted concerning discrepancies? (name/date)	□ Yes	_ □ N ₀	MINA	D see Comment
Cooler	# / temp (°C) and Comments:		-,		

Cooler #/temp (°C) and Comments:

ERC 99 055/0.8°—

ERC 96 039/0.3°C

Laboratory Sample Custodian:

Laboratory Project Manager:

D. Miting. O



Lionville Laboratory, Inc. PCB ANALYTICAL DATA PACKAGE FOR TNUHANFORD B03-015 H2222

DATE RECEIVED: 05/17/03

T.T	T.	LOT	±	.03	เก	51.4	13	2
		101	π		, ,	<i></i>		-

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00NK7	002	 s	03LE0597	05/13/03	05/19/03	05/23/03
J00NK8	003	s	03LE0597	05/13/03	05/19/03	05/23/03
J00NK8	003 MS	S	03LE0597	05/13/03	05/19/03	05/23/03
J00NK8	003 MSD	S	03LE0597	05/13/03	05/19/03	05/23/03
J00NK9	007	S	03LE0597	05/15/03	05/19/03	05/24/03
LAB QC:					•	
PBLKUJ PBLKUJ	MB1 MB1 BS	s s	03LE0597 03LE0597	N/A N/A	05/19/03 05/19/03	05/23/03 05/23/03

y 5/29/3



Analytical Report

Client: TNU-HANFORD B03-015

LVL#: 0305L432

SDG/SAF #: H2222/B03-015

W.O. #: 11343-606-001-9999-00

Date Received: 05-17-03

PCB

The set of samples consisted of three (3) soil samples collected on 05-13,15-03.

The samples and their associated QC samples were extracted on 05-19-03 and analyzed according to Lionville Laboratory OPs based on SW846, 3rd Edition procedures on 05-23,24-03. The extraction procedure was based on method 3540 and the extracts were analyzed based on method 8082.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

- 1. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
- 2. All required holding times for extraction and analysis have been met.
- 3. All samples and their associated QC samples received Florisil, Sulfuric Acid, and Sulfur cleanups.
- 4. The method blank was below the reporting limits for all target compounds.
- 5. Three (3) of four (4) obtainable surrogate were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
- 6. All blank spike recoveries were within acceptance criteria.
- 7. Matrix spike recoveries were unobtainable due to the dilution required for analysis.
- 8. All samples required 50-fold instrument dilutions due to the high concentrations of non-target analytes. Reporting limits have been adjusted to reflect the necessary dilutions.
- 9. All initial calibrations associated with this data set were within acceptance criteria.
- 10. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 15 pages.

11. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the laboratory Manager or a designee, as verified by the following signature.

Iain Daniels

Laboratory Manager

Lionville Laboratory Incorporated

pef\r:\group\data\pest\tnu hanford\05L-432.pcb



Lionville Laboratory S	ample Discrepancy Repon	SDR #: <u>occ151</u>
Initiator: Bryse Sutaro Date: 5/27/03 Client: TNU	Batch: 305/81,437,441,450 Samples: 5 Method: \$\frac{1}{2}\text{Method} \text{Method} \text{Method}	Parameter: Matrix: Prep Batch: 2000 900 900 900 900 900 900 9
1. Reason for SDR a. COC Discrepancy Tech Profile Transcriptio	e Error Client Request Son Error Wrong Test Code Son	Sampler Error on C-O-C Other
b. General Discrepancy Missing Sample/Extract Co Hold Time Exceeded Ins Improper Bottle Type No Note*: Verified by [Log-In] or [Prep Group] (circ	sufficient Sample Preserva t Amenable to Analysis	ample Pulled Label ID's Illegible ation Wrong Received Past Hold
c. Problem (Include all relevant specif	·	
60 High surrogate recover		reries good.
2, Known or Probable Causes(s)		
2. Known of Probable Causes(s)		
		•
3. Discussion and Proposed Action	Other Description: Normant	
Re-log Entire Batch	, ou Mpc C	•
Following Samples: Re-leach		
Re-extract		
Re-digest Revise EDD		
Change Test Code to Place On/Take Off Hold (circle)	- \	1
4. Project Manager Instructionssign	film (55	10100
Disagree with Proposed Action; S Include in Case Narrative	See Instruction	
Client Contacted:		
Date/Person Add		
Cancel		
5. Final Actionsignature/date:	est fanalysis] (circle)	anation:
Electronic COC Revised EDD Corrections Completed		
,, — 	ed, forward original to QA Specialist	for distribution and filing.
Route Distribution of Completed SDF		oution of Completed SDR
X Initiator X Lab General Manager: M.		tals: Beegle rganic: Perrone
X Project Mgr: Stone/Johnson	i/HaslettGC	C/LC: Kiger
X Technical Mgr: Wesson/Dai		3: Rychlak/Layman g-in; Melnic
Data Management: Feldma Sample Prep: Beegle/Kiger	in Ad	min: Soos ner:
Sattiple Fieb. beegle/Niger	0	HO11



GLOSSARY OF PESTICIDE/PCB DATA

DATA QUALIFIERS

- U = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
- Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
- E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- I = Interference.

ABBREVIATIONS

- BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD = Indicates blank spike duplicate.
- MS = Indicates matrix spike.
- MSD = Indicates matrix spike duplicate.
- DL = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
- NA = Not Applicable.
- DF = Dilution Factor.
- NR = Not Required.
- SP = Indicates Spiked Compound.



GLOSSARY OF PESTICIDE/PCB DATA

- This flag is used for an PESTICIDE/PCB target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
- This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- This flag applies to a compound that has been confirmed by GC/MS.

PCBs by GC Report Date: 05/27/03 13:52 Client: TNUHANFORD B03-015 H2222 Work Order: 11343606001 Page: 1 RFW Batch Number: 0305L432

										_			
	Cust ID:	J00NK7	•	J00NK8	ŀ	J00NK8		J00NK8	;	J00NK9		PBLKUJ	,
Sample	RFW#:	002	:	003	,	003 MS		003 MSD	•	007		03LE0597-	MB1
Information	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	50.	. 0	50.	0	50.	0	50.	0	50.		1.	
	Units:	UG/F	(G	UG/K	(G	UG/K	G	UG/k	(G	UG/K	G	UG/	KG
Surrogate:	Decachlorobiphenyl	D	8	D	ક	D	ક	D	ક	D	8	130	
_	Tetrachloro-m-xylene	D	% €1	D	% £1	D	왕 -	D	% f1	 D	% -=f1	105	* ==f1
Aroclor-1016		0.4.0	==11≅:	850	U	D	r1=	D	8 8	790		15	
Aroclor-1221		- 040	Ų	850	U	850	U	850	U	790	Ü	15	Ū
	2		U	850	U	850	U	850	U	790	Ų	15	U
Aroclor-1242	2		U	850	U	850	U	850	Ū	790	U	15	U
Aroclor-1248	3	840	U	850	U	850	U	850	U	790	U	15	U
Aroclor-1254	4	840	U	850	U	850	U	850	U	790	U	15	U
Aroclor-1260	0	_ 260	J	380	J	D	૪	D	૪	790	U	15	U
 	Cust ID:	PBLKUJ BS							<u></u>				
Sample	RFW#:	03LE0597-1	MB1										
Information	Matrix:	SOIL											
	D.F.:	1.0	00										
	Units:	UG/I	KG										
Surrogate:	Decachlorobiphenyl	155	⋆ ક										
	Tetrachloro-m-xylene				£1		f1_		f1_		f1		f1
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	6	115	ક										
Aroclor-1223	6 1	_ 115 _ 15	_										
Aroclor-1221	1	_ 15	_									(<i>7</i>)	
Aroclor-1221 Aroclor-1232	12	_ 15 _ 15	U								1.	ر ادر	
Aroclor-1222 Aroclor-1232 Aroclor-1242	1 2 2	_ 15 _ 15 _ 15	U U							O.	, A:	nt,	
Aroclor-1232 Aroclor-1242 Aroclor-1248	12	_ 15 _ 15 _ 15 _ 15	บ บ บ							P	15 A:	نمادن	

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Lionville Labo		j	Custo												qu	les	t Pag	je <u>1</u>	_ of	1		T)	1	/	1
030	<u> 5 L4</u>	32		FIELD	PERS	ONNE	L: C	OMPL	ETE O	NLY	SHAD	ED /	AREA A	s g.	ـــ	0		ĩ	>	E			HONVI	LE LABORA	TORYING
ClientT	NU	Hendord	<u> 60</u> :	3-015				Retrige	erator #				2					1				<u> </u>	 \		
Est. Final Pro	oj. Samj	oling Date	<u> </u>					#/Type	Containe	er	Liquid					<u> </u>						\Box		\Box	
1 -		1343-606		9999-	00						Solid		اعم	اعد	4	lan			ဝရ	104		lay	10	4—	-
Project Conta	act/Pho	ne # Project Manage	00.1	1.44	<u>0</u> <u>0</u>		<u>-</u>	Volume	e	-	Liquid Solid		120	20	<u> </u>						 				
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uc s		Del	<u> </u>	1 (200	<u> </u>		=	ANALY					ORG	ANIC	└ <i>─</i> ──	100		_		RG				+	+
Date Rec'd	5.17	<u> 03</u>	Date Due		24-0	3		REQUE				۷٥	BNA	Pest/ PCB	Feb.	18		İ	Metal	18 18 18 18 18 18 18 18 18 18 18 18 18 1		S. Hak	百		
MATRIX	Τ	Γ				Mat	rix		T	Ţ					1	L	Lionville				e Only		1		<u></u>
CODES: S - Soil SE - Sediment SO - Soild	Lab ID	Cı	lent I <i>D/De</i> sc	ription		Cho:	sen ′)	Matrix	Date Collect		Time ollected		0625H	0,00 H	OHBGY	ORB			MRCAGTO	ECAMO		ISFD	7	١	
SL - Sludge W - Water O - Oil	100	JOON	4					S	5.13.	03 (2)	Par)		X		_				Y_						
A - Air DS - Drum	500	JOON)_		1	SCR		Χ	X	X				X	Х		Х			
Solids DL - Drum	800	1							1		<u> </u>		X	X	X	<u> </u>			X_	X		X			
Liquids L - EP/TCLP	004	1							5 A	<u> </u>	<u>0880</u>	_	X			ļ		;	X _	<u> </u>					ᆜ
Leachate WI - Wipe	005	1						1	-	_ 0	200	<u> </u>	X			X			X_{-}					 	
X - Other F - Fish	006					-		1_	 _L	-	<u> </u>		X			X		_	Ŷ	-		V	-+-	+	
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	4:					<u>ا۔ل</u>	DATE/	REVISIO	NS:			<u> </u>	<u> </u>			<u> </u>	ll-		Γ		Lionvil	e Labor	ratory Use	Only	
Special Instruc		SAE #			ise - 00	- - (4) - -			1 2 3 4 5										1) Hai Ai 2) 3) Co	and Del rbill # Ambier	nt or Ch	illed	1) Pres Packas 2) Unb Packas 3) Pres 4) Unb	roken or	Outer or N n Outer or N Sample or N
		Pagained		_	Rei	linquis	hed		6	ed			Tin		Disc	repanci	es Betwee	 en			Preserve	ed N	COC F	e . (*) or Record P Sample I	resent
Relinquished by		Received by	Date	Time		by		1	by	OR	il Gif		}	-	Sam	ples La	bels and d? Y of		,		ed With	in		(A)	or N
desc.	7	Smil	5.00	1153			ייי פאו	SITE		RE'	WRI	LIE	N_		NOT	ES:	`	ت مءء		olding T	\sim 1	N 70 n	Cooler Temp.	<u>O.</u>	<u>ე</u> დ გვე:
1	- {	/]	{	([[•		[Ì		L		19	<u>03,</u>	7204	71	(O)	<u> </u>	<u> </u>	_170	1250	пH	22

Bechtel Hanfor	d Inc.	CI	HAIN OF CUST	CALAC.	AlvirL	L AN	AL.	מומ ו							
Collector Fahlberg			nny Contact tankovich	Telephor 531-70		<u> </u>				iect Coordi SNER, JH	nator	Price Code	8B		rnaround
Project Designation Remaining Sites Confirmation	n Sampling-Soil		ing Location -139						SAF B03	No. -015		Air Qualit	y 🗆		Days
Ice Chest No. ERC 9	6039		Logbook No. 577		COA C17HXU	U671C			F	hod of Ship ed EX					
Shipped To TM VRECRA		Offsite	Property No.	0300	23/			,	Bill	of Lading/	Air Bill N	°. Sel	osp (<u></u>	
POSSIBLE SAMPLE HAZA	RDS/REMARKS			ĺ	ł	1	- 1	1				1		1	l
Non-Rad Area, No Activity Rep	ort Required		Preservation	None	Cool 4C	C00	14C		j			-		Ì	
Special Handling and/or S	torage		Type of Container	aG	aG	a	-4-								
•			No. of Container(s)	1	1	'	1		j		1	\]	1	<u></u>
•	C00 4°C		Volume	60mL	120mL	601	mi								
	SAMPLE ANALY	/SIS		See item (1) in Special Instructions.	Semi-VOA 8270A (TC		960A M. G			,					
Sample No.	Matrix *	Sample Date	Sample Time										et museum en en en en en en en en en en en en en	April 290	To Light of
JOONLO	SOIL	5.13.0	3 0900	×	X	$\bot \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \!$		ļ		 	 	-		<u> </u>	
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				<u> </u>	<u> </u>			<u> </u>						<u> </u>	<u> </u>
CHAIN OF POSSESSIO		Sign/Prin				ECIAL I	NSTR	RUCTIO	ONS						Matrix *
Relinquished By/Removed From			728 5.1	3 · 03	(1)) ICP Meta ercury - 74			lient L	ist) (Arsenic,	Barium, Ca	dmium, Chrom	ium, Lead, Selen	ium, Silver);	S=Soil SE=Sediment SO=Solid
	51603 1100	Received By/Stor	JKd- 5160		00										Si=Sludge W = Water O=Oil A=Air
Relinquished By/Removed From	Date/Time 603 1(00	Received By/Stor	Eχ	ate/Time											DS=Drum Solids DL=Drum Liquids
Relinquished By/Removed From	Date/Time	Received By Sm	hudh 5.174	ate/Time <u>IS NSS</u>	-										T=Tissue WI=Wipe L=Liquid
Relinquished By/Removed From	Date/Time	Received By/Sto	red In D	ate/Time		relinqu	iish sa	ot availa ample <u>s</u> 1	from	the 3728					V=Vegetation X=Other
Relinquished By/Removed From	Date/Time	Received By/Sto	red In D	ate/Time		Ref#	5 /t	on _ <i>S</i>	_/[_	. 103					
LABORATORY Received By SECTION	y			Ti	tle									Date/Time	·
FINAL SAMPLE Disposal M DISPOSITION	ethod						Dispo	sed By						Date/Time	

Bechtel F	lanford Inc.	!	СНА	IN OF CUST	ODY/S.	AMPI	LE A	ANALY	YS	IS R	ŒQ	UEST		Bu.)-013-70		
Collector Fahlberg			Company M Stank	Contact	Telephor 531-76	ie No.				P	Proiec (ESS)	t Coordin	antor	rice Code	8B		rnaround
Project Designation Remaining Sites Con	nfirmation Sampling-Soil		Sampling 600-139		 _	 .					303-0		A	ir Quality			Days
Ice Chest No. ER	c 96 039	7	Field Log EL1577			COA C17HX		c			Fed						
Shipped ToTM_(/RECRA)	:		Offsite Pr	operty No. AC	302	231	· · · · ·		, — <u>.</u>		Bill of	Lading/	Air Bill N	SEE	057	ر د	
POSSIBLE SAMPLI	E HAZARDS/REMARKS		}			}	- {				1					1	1
Non-Rad Area, No Ac	tivity Report Required			Preservation	None	Cool 4	4C	Cool 4C		Cool 4C	\perp	Cool 4C	Cool 4C	<u> </u>	<u> </u>		
Special Handling a	nd/or Storage		1	Type of Container	aG	aG		aG	_	aG	Щ	aG	aG			ļ	
	DO1 4°C		N	lo. of Container(s)	1	1		1				l '	1	 	<u> </u>	 	ļi
				Volume	60mL	240m	nL	120mL	, '	60mJ		120mL	120mL				
	SAMPLE A	NALYSIS			See item (1) in Special Instructions.	PCBs - 80 Pesticide 8081; Chi Herbicide EPA81	les - hioro- les -	Semi-VOA - 8270A (TCL)	vo.	7. (2 C)	OA Su	lfides - 9030	Total Cyanide - 90	10			
Sample No.	Matrix *	Samp	ile Date	Sample Time	2.8 A	B 17 5		A. A.		43		atri	Section 1		1. 1. 2. 2.	982	September.
J00NK7	SOIL	5 -	3.03	0920	<u>×</u>	х		χ	Ц			χ	×	<u> </u>	<u> </u>	<u> </u>	
J00NK8	SOIL	5.1	3-03	0920	<u>×</u>	×		_х_	+		+	Х	X	 		 	
				 					$rac{1}{2}$		+			 			
									,		\Box]			
CHAIN OF POS			ign/Print Na		ne/Time 14		PECL	al instr	UC	TION	NS						Matrix *
Relinquished By/Removed R. F. OOO R.	E416-12 5.13.4	3 3		28 5.1	3.03	- 10		Metals - 60 y - 7471 - (C		R (Clier	nt List)	(Arsenic,	Barium, Cad	mium, Chromiu	m, Lead, Selen	ium, Silver};	S=Seil SE=Sediment SO=Solid
Relinquished By/Kemoved	From Date/Time 728 57603	100 5	ed By/Stored L	1/2h_516		100											Si=Sludge W = Water O=Oil
Relinquished By/Removed	<u> </u>	ite/Time												A=Air DS=Drum Solids DL=Drum Liquids T=Tissue			
Relinquished By/Removed	100 5.1	11e/Time 7-03_115	5		Personne	el no	ot ava	ailahle	• 10					WI=Wipe L=Liquid V=Vegetation			
Relinquished By/Removed		Receiv	ed By/Stared I	n Da	te/Time			relinquis Ref#	sh sa	ample on	s from	n the 372	8 7				X=Other
Relinquished By/Removed	From Date/Time	Receiv	ed By/Stored L	n Da	te/Time												
TWENCE THE CALL	acceived By				Ti	tle									1	Date/Time	
FINAL SAMPLE DISPOSITION	Disposal Method							Dispo	sed I	Ву						Date/Time	

Bechtel Hanfor	(CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST BU3-013-103 1									10-							
Collector Doug Bowers			npany Co Iike Stan		Telepho 372-9							et Coord NER, JH	inator	Price	Code	8B		rnaround
Project Designation Remaining Sites Confirmation	n Sampling-Soil		oping La 00-181 o	ocation oil dump area							SAF B03-			Air Quality 🗍			7 I	Days
Ice Chest No. ERC 9	9 055		d Logbo L-1578	ok No.	COA Method of Shipment C17HXU671C Fed Ex													
Shipped To TMA/RECRA	:	Offs	site Prop	ertv No.	1030	23	3.2	<u>-</u>			ВШ	of Lading	/Air Bill i	NO. ELEOSP.C			- -	
POSSIBLE SAMPLE HAZA	RDS/REMARKS		T		L_{-} .	7	_		1				ł	- }			}	}
			,	Preservation	None	Cox	iol 4C	Cool 4C					1	- {			}	}
}			<u> </u>	pe of Container	aG	+	aG	aG	<i>†</i> †		1						 	
Special Handling and/or S	itorage			 -	1-1	 	i	-1			+		 	-+-			 	
				of Container(s) Volume	60mL	120	:0mL	60m1	+		+			+		<u> </u>	 	
SAMPLE ANALYSIS					See item (1) in Special Instructions.	8270A	-VOA - A (TCL)	VOA - 1266 (TGL)										
Sample No.	Matrix *	Sample Date	ie	Sample Time	40,00				7 3	W,	, •]	7 2 1 2	\$245 E					
J00NP0	SOIL	5-14-0	3	0830	X		Χ	TX	7	1								
																		
						T_{-}							<u> </u>					
						T			T			_						
		 				1			\top									
CHAIN OF POSSESSIO			int Name			二	SPEC	IAL INS	TRUC	CTIO	NS							Matrix *
Relinquished By/Removed From Dome	149 Date/Time	Received By/Si	tored in	728 1-14c	ate/Time /	10	(I) IC	P Metals -	6010T	rr (Cli	ent List) (Arsenic,	Barium, Ca	admium,	, Chromium	, Lead, Seleni	um, Silver);	S=Soil SE=Sediment
Relinguished By/Removed From	Date/Time						ſ	гу - 74 71 -					~			1		SO=Solid SI=Studge
REF3A 3728 510				L 51603		20	1 1		'n	ot	u	97	tor	^	a.A.	/ a.c	-	W = Water O=Oil
	Date/Time 1603 1100	Received By/St		Da	ate/Time		1		11	- ,	٠ () ·	,		4/	/ 1.5	•	A=Air DS=Drum Solids DL=Drum Liquids
Relinquished By/Removed From	Date/Time	Received Hy/Se	tored in	Da מידיי איני (או	ate/Time	- 1												T=Tissue Wi=Wipe L=Liquid
Relinquished By/Removed From Date/Time Received By/Stored In Date/Time			Da Da	ate/Time	'	Pers relii	sonnel no Iquish sa #	nples	ilable <u>§ f</u> rom	to 1 the 3	728					:	V=Vegation X=Other	
Relinquished By/Removed From	Date/Time	Received By/St	tored in	Da	ate/Time		VĆ1	# =>/! 0	on	<u>></u> /_	16 /s	23						
LABORATORY Received By SECTION	,			 -	Ti	itle										r	Date/Time	<u> </u>
FINAL SAMPLE Disposal Me	ethod		<u> </u>					Dis	sposed	l By					<u>-</u> -	ī	Date/Time	

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Matrix *	
S=Soli SE=Sotiment	
SE=Sodiment SO=Solid Si=Siudge	}
W = Water O=Oil	
A=Air DS=Drum Solids DL+Drum Liquids	
T=Tissuc WI=Wine	
L=Liquid V=Vegetation	{
X=Other	
	[
	{

Bechtel Hantord Inc. CHAIN OF CL				JF CUS	STODY/	<u>SAN</u>	MIPLE ANALYSIS REQUEST B03-015-102 Fage 1						or T				
Collector Doug Bowers			pany C ke Star			Teleph 372	one No 9082	0.			Proiect KESSN	Coordin ER, JH	ator P	3			rnaround
Project Designation Remaining Sites Confirmation	n Sampling-Soil		oling L 0-181		on mp area						SAF No B03-01		A	ir Quality	/	7 I	Days
Ice Chest No. ERC 99	9 055	9 -	Logbe -1578		0.		C)	OA 7HXU6	71C		Fed F						
Shipped To- TMA/RECRA		Offs	te Pro	perty	No.	1030	2	3 _Z	_		Bill of	Lading/A	ir Bill No.	5EE	OPC		
POSSIBLE SAMPLE HAZA	RDS/REMARKS			Prese	ervation	None		Cool 4C	Cool 4C	Cool	1.	٥٢					
Special Handling and/or S	toraga		Type of Container		r aG		aG	aG	aG	2	4						
Special manufing and of	Op			No. of Container(s)				1	1 120mL	60m		<u> </u>		<u> </u>			
			Vo	olume	60mL	\perp	250mL				> rc		ļ			<u> </u>	
SAMPLE ANALYSIS						See item (1) Special Instruction	s. Per 808 Her E	Ss - 8082; sticided- 1; Chloro- rbicides - FAB151	Semi-VOA - 8270A (TCL)	VOA - 8 (TCI	L) (†•	P1+ + • 1) 8.]					
Sample No.	Matrix *	Sample Dat			mple Time	- AT 100 (20)				建设		(4 <u>6</u> =		17.57%			Tarasa .
J00NN7	SOIL	5-14-0	<i></i> _		900	-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\	-	<u> </u>	X					 	 -	<u> </u>	
8N/100L	SOIL	5-14-	2_	10	400	- Y		<u> </u>	_X	 				 		 	
100NINO	30H-						1			_					 	ļ	
CHAIN OF POSSESSIO	N.	Siga/Pr	nt Nar	\				lene.	CIAL INSTE	L.	ONE	1		<u> </u>	<u> </u>		Matrix *
Relinquished By/Removed From D		Received By/S	ored in			Date/Time		7									S=Soli
Relinquished By/Removed From	Date/Time					Date/Time	10		CP Metals - 60 ury - 7471 - (C		lient List)	(Ars e nic, B	larium, Cadm	ium, Chromu	ım, Lead, Seleni	ium, Silver};	SE=Sodiment SO=Solid Si=Siudge
REF 3A 3728	51603 11 00 Date/Time	Received By/S		<u> Vre</u>	<u></u>		00	_									W = Water O-Oil A=Air
Relinquished By/Removed From		Received By/S						_									DS=Drum Solids DL=Drum Liquids T=Tlssuc
Relinquished By/Removed From	Date/Time 7 (3) 1155	Received By/S	ared in	سرن	· 5_	Date/Time	55	- Da	sconnel not	availabl	le to						WI=Wipe L=Liquid V=Vegetation
Relinquished By/Removed From	Date/Time	Received By/Stored In Date/Time Personnel not available to relinquish samples from the 3728 Ref # 37 on 5 1/6 103							X=Other								
Relinquished By/Removed From	Date/Time	Received By/S	tored In			Date/Time		7 ~	51 # <u>24 /</u> 01	' <u>-:</u>	· <u></u>						
LABORATORY Received B	y	_					Title	-1 - -		-					I	Date/Time	
FINAL SAMPLE Disposal M	ethod								Dispo	osed By						Date/Time	

Bechtel Hanfo	ord Inc.	C	CHAIN OF CUSTODY/SAMPLE ANA					ANALY	$\langle S \rangle$	IS R	REQUEST B03-015-99 1 of the second se				Lake T	· ·
Collector Fahiberg			anv Con Stankovic		Telephor 531-76						roiect Coordii ESSNER, JH	nator P	rice Code	8B	Data Tur	ì
Project Designation Remaining Sites Confirmati	on Sampling-Soil		ling Loca)-139	ation							AF No. 03-015	A	ir Quality		7 D	ays
Ice Chest No. ERC 9	6 039		Logbook 1577	No.		COA Method of Shipment C17HXU671C Fed EX										
Shipped To TMA(RECRA)		Offsit	e Proper	tv No. AO	302	31		:		В	ill of Lading/	Air Bill No	500	03/	ے<	
POSSIBLE SAMPLE HAZ	ARDS/REMARKS		1])		1]		
Non-Rad Area, No Activity R			Pro	eservation	None	Cool 4	4C	Cool 4C	· C	cool 4C	Cool 4C	Cool 4C	Cool 4C			
Special Handling and/or	Storage		Туре	of Container	aG	aG		aG		aG	aG aG	aG	aG			
Special Handling and/or Storage No. of Container(s)			ì	RINE				1	1 (0.1	1 120 7	1 120-1		·			
Volume				60mL	240m ⊋56 ~	- 1	120mL		60mI	60mL	120mL	120mL		i 		
SAMPLE ANALYSIS					See item (1) in Special Instructions.	PCBs - 80 Pesticide 8081; Ch Herbicid EPA81	les - hloro- des -	Semi-VOA - 8270A (TCL)		A - 8 60 (TCL)	A TPH (Total) - 418.1	Sulfides - 903	O Total Cyanide - 9010			
Sample No.	Matrix *	Sample Date		Sample Time		\$4.7°E	i de la	12.102425.04	APC)	ig W		& 2.57	40.3838	6. (20)	70.460	Art sair
JOONK9	SOIL	5.150	>	1220	X	X		X			X	X	×			
]		4		. 		 			
	 	<u> </u>				 	{		4-			 -		 		
	 					 			+		 -		 	 		
CHAIN OF POSSESSI	ON I	Sign/Prin	it Names		<u></u>		PEC	IAL INSTR	UC	TION		L -,		1	<u></u>	Matrix *
Relinquished By/Removed From Date/Time Received By/Stored In Date/ Relinquished By/Removed From Date/Time Received By/Stored In Date/ Relinquished By/Removed From Date/Time Received By/Stored In Date/ Relinquished By/Removed From Date/Time Received By/Stored In Date/ Relinquished By/Removed From Date/Time Received By/Stored In Date/ Relinquished By/Removed From Date/Time Received By/Stored In Date/ Relinquished By/Removed From Date/Time Received By/Stored In Date/ Relinquished By/Removed From Date/Time Received By/Stored In Date/				the Time 5: the Time 5: the Time 5: the Time 5: the Time 5: the Time 5:		Mercui Pe re	ry - 7471 - (C' ersonnel nor linguish sar	v)	ailable	t List) {Arsenic, } t to t the 3728	Barium, Cad	mium, Chromiur		um, Silver};	S=Sold SE=Sodiment SO=Solid SE=Studge W = Water O=Oll A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other	
LABORATORY Received SECTION									-						Date/Time	
FINAL SAMPLE Disposal DISPOSITION	Method							Dispo	sea i	ьу					-are lane	

Bechtel Hanford Inc. CHAIN OF CU				AIN OF CUST	TODY/SAMPLE ANALYSIS REQUEST B03-015-102 Page 1 of									
Collector Doug Bowers			C		Contact tankovich	Telephor 372-90				Project Coordinato KESSNER, JH	Price Code	8B	Data Tu	
Project Designation Remaining Sites Co	onfirmatio	n Sampling-Soil	S		Location			·		SAF No. B03-015	Air Quality	/ D	7 D	ays
Ice Chest No.	RC.	99 055	F	ield Los EL-157	ebook No. 78		COA Method of Shipment Fed Ex							
Shipped To TM (/RECRA	,	· <u>-</u> · · ·	O	Offsite P	roperty No. A	30	252			Bill of Lading/Air	Bill No. 58	0576		
POSSIBLE SAMP	LE HAZA	RDS/REMARKS					Ţ -							
					Preservation	None	Cool 4C	Cool 4C	Cool	_ 7 -		<u> </u>		
Special Handling	and/or S	torage			Type of Container	aG	aG	aG .	aG	96		ļ		
				1	No. of Container(s)	1	<u> </u>	1						
					Volume	60mL	250mL	120mL	60m	160m1				
SAMPLE ANALYSIS					See item (1) in Special Instructions.	PCBs - 8082 Pesticides - 8081; Chlore Herbicides - EPA8151	8270A (TCL)	VOA - 8 (TCI						
Sample No).	Matrix *	Sample I	Date	Sample Time									
JOONNY X 19		SOIL					<u> </u>							
JOONNB JE-L	4-03	SOIL					<u> </u>							
J00NN9		SOIL	5-17	-07	11300	Χ	LX.	χ		X				
						<u> </u>			<u> </u>					
							<u> </u>		<u>L</u>					
CHAIN OF PO				/Print N			SPE	CIAL INSTR	UCTIO	ONS				Matrix *
Relinquished By/Removi	2 flares ed From	29 Date/Time 25 5-19-01/1470 Date/Time 51603 110	Received F	3A By/Stored	3738 1-11	ite/l'inne	230 (1) Silv	ICP Metals - 60 er}; Mercury - 7	10TR (C 471 - (C'	llient List) {Arsenic, Bariu V)	ım, Cadmium, C <i>hromi</i>	um, Lead, Seleniu	ım,	S=Soil SE=Sedinucus SO=Solid SI=Studge W = Water O=Oil
Relinquished By/Remove	ed From	Date/Time 51603110	Received B	3y/Stored		ite/Time								A=Air DS=Drum Solids DL=Drum Liquids
Relinquished By/Remove	ed From	Date/Time	Received B	Syoned	min 5.7.	ue/Time <u>u3 [1</u> 5	55							T=Tissue Wl=Wipe L=Liquid V=Vegetation
					ite/Time	1	Personnel not relinquish sar	uples fi	rom the 3728				X=Other	
Relinquished By/Removed From Date/Time Received By/Stored In D				ite/Time		Ref # <u>>A</u> 0	n <u>5</u>	16103						
LABORATORY SECTION	Received B	y				Ti	tle					D	ate/l'ime	
FINAL SAMPLE DISPOSITION	Disposal M	ethod						Dispo	sed By			Γ.	ate/Time	
L														

LIONVILLE LABORATORY INCORPORATED SAMPLE RECEIPT CHECKLIST

LIENT:

TNU Harnford

'urchase Order/Project:

DATE:

5.17.03

AF# SOW# / Release #:

B03-015

_aboratory SDG #:

305L432 NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION S-Yes Custody seals on coolers or shipping D No Comment # container intact, signed and dated? Outside of coolers or shipping containers are ☑ Yes D No DNA See Comment # free from damage? Airbill # recorded? D No D N/A see Comment # 4. All expected paperwork received (coc and **₽**Yes □ No D N/A ☐ set Comment # other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid) Sample containers are intact? D Yes D No D N/A ☐ see Comment # Q Yes Custody seals on sample containers intact, D No. DNA ☐ see Comment # signed and dated? All samples on coc received? Æ Yes D No D N/A D see Comment # ▼ Yes D No DNA · □ see Comment # All sample label information matches coc? 9. Laboratory QC samples designated on coc? D/NA D Yes □ No ☐ see Comment # (QC stickers placed on bottles?) 10. Shipment meets LvLl Sample Acceptance D No D N/A ☐ see Comment # Policy? (identify all bottles not within policy. See reverse side for policy) 11. Where applicable, bar code labels are □ Yes □ No DANA D see Comment # affixed to coc? 27Yes D No D N/A D see Comment # 12. coc signed and dated? L Yes 13. coc will be faxed or emailed to client? □ No DINA ☐ see Comment # 14. Project Manager/Client contacted 19 N/A ☐ Yes □ No ☐ see Comment #

Cooler # / temp (°C) and Comments:

Elc 99 055/0.8°

ERC 96039/0,3°C

concerning discrepancies? (name/date)

Laboratory Sample Custodian:

Laboratory Project Manager:

Ntung! @

15



Lionville Laboratory, Inc. INORGANIC ANALYTICAL DATA PACKAGE FOR TNUHANFORD B03-015 H2222

DATE RECEIVED: 05/17/03 LVL LOT # :0305L432

CLIENT ID /ANALYSIS	LVL #	MTX — —	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
J00NL0						
SILVER, TOTAL	001	s	03L0269	05/13/03	05/19/03	05/22/03
ARSENIC, TOTAL	001	S	03L0269	05/13/03	05/19/03	05/22/03
BARIUM, TOTAL	001	s	03L0269	05/13/03	05/19/03	05/22/03
CADMIUM, TOTAL	001	s	03L0269	05/13/03	05/19/03	05/22/03
CHROMIUM, TOTAL	001	S	03L0269	05/13/03	05/19/03	05/22/03
MERCURY, TOTAL	001	s	03C0122	05/13/03	05/21/03	05/22/03
LEAD, TOTAL	001	s	03L0269	05/13/03	05/19/03	05/22/03
SELENIUM, TOTAL	001	s	03L0269	05/13/03	05/19/03	05/22/03
J00NK7						
SILVER, TOTAL	002	s	03L0269	05/13/03	05/19/03	05/22/03
SILVER, TOTAL	002 REP	s	03L0269	05/13/03	05/19/03	05/22/03
SILVER, TOTAL	002 MS	s	03L0269	05/13/03	05/19/03	05/22/03
ARSENIC, TOTAL	002	s	03L0269	05/13/03	05/19/03	05/22/03
ARSENIC, TOTAL	002 REP	S	03L0269	05/13/03	05/19/03	05/22/03
ARSENIC, TOTAL	002 MS	s	03L0269	05/13/03	05/19/03	05/22/03
BARIUM, TOTAL	002	s	03L0269	05/13/03	05/19/03	05/22/03
BARIUM, TOTAL	002 REP	s	03L0269	05/13/03	05/19/03	05/22/03
BARIUM, TOTAL	002 MS	S	03L0269	05/13/03	05/19/03	05/22/03
CADMIUM, TOTAL	002	s	03L0269	05/13/03	05/19/03	05/22/03
CADMIUM, TOTAL	002 REP	s	03L0269	05/13/03	05/19/03	05/22/03
CADMIUM, TOTAL	002 MS	S	03L0269	05/13/03	05/19/03	05/22/03
CHROMIUM, TOTAL	002	S	03L0269	05/13/03	05/19/03	05/22/03
CHROMIUM, TOTAL	002 REP	S	03L0269	05/13/03	05/19/03	05/22/03
CHROMIUM, TOTAL	002 MS	s	03L0269	05/13/03	05/19/03	05/22/03
MERCURY, TOTAL	002	S	03C0122	05/13/03	05/21/03	05/22/03
MERCURY, TOTAL	002 REP	s	03C0122	05/13/03	05/21/03	05/22/03
MERCURY, TOTAL	002 MS	s	03C0122	05/13/03	05/21/03	05/22/03
LEAD, TOTAL	002	s	03L0269	05/13/03	05/19/03	05/22/03
LEAD, TOTAL	002 REP	s	03L0269	05/13/03	05/19/03	05/22/03
LEAD, TOTAL	002 MS	S	03L0269	05/13/03	05/19/03	05/22/03
SELENIUM, TOTAL	002	S	03L0269	05/13/03	05/19/03	05/22/03
SELENIUM, TOTAL	002 REP	S	03L0269	05/13/03	05/19/03	05/22/03
SELENIUM, TOTAL	002 MS	s	03L0269	05/13/03	05/19/03	05/22/03

Lionville Laboratory, Inc. INORGANIC ANALYTICAL DATA PACKAGE FOR TNUHANFORD B03-015 H2222

LVL LOT # :0305L432 DATE RECEIVED: 05/17/03 CLIENT ID /ANALYSIS LVL # MTX PREP # COLLECTION EXTR/PREP ANALYSIS JOONK8 S 03L0269 05/13/03 05/19/03 05/22/03 SILVER, TOTAL 003 S 03L0269 05/19/03 05/22/03 ARSENIC, TOTAL 003 05/13/03 05/22/03 S 03L0269 05/13/03 05/19/03 003 BARIUM, TOTAL 05/19/03 05/22/03 CADMIUM, TOTAL 003 S 03L0269 05/13/03 CHROMIUM, TOTAL 003 S 03L0269 05/13/03 05/19/03 05/22/03 MERCURY, TOTAL 003 S 03C0122 05/13/03 05/21/03 05/22/03 S 03L0269 05/13/03 05/19/03 05/22/03 003 LEAD, TOTAL 05/19/03 05/22/03 05/13/03 SELENIUM, TOTAL 003 S 03L0269 J00NK9 SILVER, TOTAL 007 S 03L0269 05/15/03 05/19/03 05/22/03 S 03L0269 05/15/03 05/19/03 05/22/03 ARSENIC, TOTAL 007 S 03L0269 05/19/03 05/22/03 05/15/03 BARIUM, TOTAL 007 05/19/03 05/22/03 S 03L0269 05/15/03 CADMIUM, TOTAL 007 05/15/03 05/19/03 05/22/03 S 03L0269 CHROMIUM, TOTAL 007 05/15/03 05/21/03 05/22/03 MERCURY, TOTAL 007 S 03C0122 S 03L0269 05/15/03 05/19/03 LEAD, TOTAL 007 05/22/03 007 S 03L0269 05/15/03 05/19/03 05/22/03 SELENIUM, TOTAL LAB QC: S 03L0269 N/A 05/19/03 05/22/03 LC1 BS SILVER LABORATORY 05/22/03 N/A 05/19/03 S 03L0269 SILVER, TOTAL MB1 N/A05/19/03 05/22/03 ARSENIC LABORATORY LC1 BS S 03L0269 N/A 05/19/03 05/22/03 S 03L0269 ARSENIC, TOTAL MB1 N/A 05/19/03 05/22/03 LC1 BS S 03L0269 BARIUM LABORATORY N/A05/19/03 05/22/03 S 03L0269 BARIUM, TOTAL MB1 N/A 05/19/03 05/22/03 LC1 BS S 03L0269 CADMIUM LABORATORY 05/22/03 S 03L0269 N/A 05/19/03 CADMIUM, TOTAL MB1 05/19/03 05/22/03 CHROMIUM LABORATORY LC1 BS S 03L0269 N/AN/A 05/19/03 05/22/03 CHROMIUM, TOTAL MB1 S 03L0269 05/22/03 S 03C0122 N/A 05/21/03 LC1 BS MERCURY LABORATORY N/A S 03C0122 05/21/03 05/22/03 MERCURY, TOTAL MB1 05/19/03 05/22/03 S 03L0269 N/ALC1 BS LEAD LABORATORY

Lionville Laboratory, Inc. INORGANIC ANALYTICAL DATA PACKAGE FOR TNUHANFORD B03-015 H2222

DATE RECEIVED: 05/17/03

LVL LOT # :0305L432

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
LEAD, TOTAL	MB1	s	03L0269	N/A	05/19/03	05/22/03
SELENIUM LABORATORY	LC1 BS	s	03L0269	N/A	05/19/03	05/22/03
SELENIUM, TOTAL	MB1	S	03L0269	N/A	05/19/03	05/22/03



Analytical Report

Client: TNU-HANFORD B03-015

LVL#: 0305L432

SDG/SAF#: H2222/B03-015

W.O.#: 11343-606-001-9999-00

Date Received: 05-17-03

METALS CASE NARRATIVE

1. This narrative covers the analyses of 4 soil samples.

- 2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary.
- 3. All analyses were performed within the required holding times.
- 4. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
- 5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits.
- 6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the PQL).
- 7. All preparation/method blanks (MB) were within method criteria {less than the Practical Quantitation Limit (3X the IDL), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.
- 8. All ICP Interference Check Standards were within control limits.
- 9. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to the Inorganics Laboratory Control Standards Report.
- 10. The matrix spike (MS) recoveries for 4 analytes were outside the 75-125% control limits. Refer to the Inorganics Accuracy Report.
- 11. For analytes where the ICP MS is out-of-control, a post-digestion MS (PDS) and serial dilution are performed. A serial dilution is performed for Mercury. A PDS was prepared at meaningful concentration level for the following analytes:

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of pages.

		PDS	<u>PDS</u>
Sample ID	Element	Concentration (ppb)	% Recovery
J00NK7	Cadmium	500	97.4
	Chromium	500	103.5
	Lead	1000	83.4

- 12. The duplicate analysis for 1 analyte was outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.
- 13. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.
- 14. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard-copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Iain Daniels

Laboratory Manager

Lionville Laboratory Incorporated

gmb/m05-432

J**2-3**8-03

Date



METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this

Leaching Procedure:131013111312Other: CLP Metals Digestion and Analysis Methods:ILM03.0ILM04.0 Metals Digestion Methods:3005A3010A30153020A3050B3051200.7SS17Other: Metals Analysis Methods EPA SW846	Lot#: 0305L432								
Metals Digestion Methods:3005A3010A30153020A3050B3051200.7SS17 Other:	Leaching Procedure	e:131013111	1312Other:						
Other:	CLP Metals _ Digo	estion and Analysis	Methods:ILM0	3.0ILM04.	.0				
Metals Analysis Methods EPA SW846 EPA STD MTD OSWR USATHAMA Aluminum6010B200.799 Antimony6010B7041 5200.7204.299	Metals Digestion M		3010A301530	20A $\sqrt{3050B}$	3051	200.7SS17			
EPA SW846 EPA STD MTD OSWR USATHAMA Aluminum6010B7041 5200.7204.299		_Other: _							
SW846 EPA STD MTD OSWR USATHAMA Aluminum6010B200.799 Antimony6010B7041 5200.7204.299		M	letals Analysis Me	thods					
Aluminum _6010B _200.7 _99 Antimony _6010B _7041 * _200.7 _204.2 _99									
Antimony6010B7041 *200.7204.299				STD MTD	OSWR				
•									
	-		-	*=					
Arsenic				3113B					
Barium									
Beryllium6010B200.799	•		_			_			
Bismuth6010B 1200.7 1162099					1620				
Boron		/							
Cadmium 6010B 7131A *200.7 213.2 99 Calcium 6010B 200.7 99									
-		 /							
Chromium <u>/6010B7191 </u>									
Copper6010B7211 ⁵ 200.7220.299									
Iron6010B7211200.7220.299				•					
Lead		 /		3113R					
Lithium 6010B 7430 200.7 1620 99		_		31131	1620	_			
Magnesium		_			1020				
Manganese6010B /200.7	•								
Mercury 7470A ³ /7471A ³ 245.1 ² 245.5 ² 99	•								
Molybdenum6010B200.799	•		—						
Nickel 6010B 200.7 99	_		-						
Potassium 6010B 7610 200.7 258.1 99									
Rare Earths 6010B 200.7 1 1620 99					1620	_			
Selenium 76010B 7740 5 200.7 270.2 3113B 99	Selenium	76010B 7740 5	_	3113B					
Silicon 6010B 200.7 1620 99			_		1620				
Silica6010B200.7162099		6010B	200.7						
Silver 76010B 7761 5 200.7 272.2 99	Silver	76010B7761 ⁵	200.7272.2						
Sodium6010B7770 4200.7273.1 499	Sodium	6010B7770 ⁴	200.7273.1 4			₉₉			
Strontium6010B200.799	Strontium	6010B				<u></u> 99			
Thallium6010B7841 ⁵ 200.7279.2200.999	Thallium	6010B7841 ⁵	200.7279.22	00.9		<u>_</u> 99			
Tin6010B200.799	Tin	6010B	200.7			<u>_</u> 99			
Titanium6010B200.799	Titanium	6010B	200.7			<u></u> 99			
Uranium6010B 1200.7 1162099	Uranium	6010B ¹	200.7 ¹		1620	99			
Vanadium6010B200.799	Vanadium	6010B	200.7		•	99			
Zinc6010B200.799	Zinc	6010B	200.7			99			
Zirconium6010B 1200.7 1162099	Zirconium	6010B ¹	200.7 1		1620	99			

L-WI-033/M-03/01

Method:

Other:

METHOD REFERENCES AND DATA QUALIFIERS

DATA OUALIFIERS

- U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.
- * = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.

MS = Matrix Spike.

MSD = Matrix Spike Duplicate.

REP = Sample Replicate

LCS = Laboratory Control Sample.

NC = Not calculated.

ANALYTICAL METAL METHODS

- 1. Not included in the method element list.
- 2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, approximately 0.3 grams of sample is taken to a final volume of 50 mL (including all reagents).
- Flame AA.
- 4. Graphite Furnace AA.

L-WI-033/N-04/98

INORGANICS DATA SUMMARY REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222

LVL LOT #: 0305L432

WORK ORD	ER: 11343-606-001-9999-	-00			555000TV45	5.************************************
	arms - T.	A.V. V. 1977	DECITE OF	TRITTE	REPORTING	DILUTION
SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	LIMIT	FACTOR
-001	JOONLO	Silver, Total	0.11 u		0.11	1.0
-001	JOURIU .	Arsenic, Total	0.31 u		0.31	1.0
		Barium, Total	1.0	MG/KG	0.02	1.0
		Cadmium, Total	0.04 u	•	0.04	1.0
		Chromium, Total	0.18	MG/KG	0.09	1.0
		Mercury, Total	0.01 u	•	0.01	1.0
		Lead, Total	0.66	MG/KG	0.22	1.0
		Selenium, Total	0.40 u		0.40	1.0
		,		,		
-002	J00NK7	Silver, Total	0.68	MG/KG	0.13	1.0
		Arsenic, Total	7.9	MG/KG	0.36	1.0
		Barium, Total	1410	MG/KG	0.02	1.0
		Cadmium, Total	22.6	MG/KG	0.04	1.0
		Chromium, Total	165	MG/KG	0.11	1.0
		Mercury, Total	0.22	MG/KG	0.02	1.0
		Lead, Total	5950	MG/KG	0.25	1.0
		Selenium, Total	1.1	MG/KG	0.46	1.0
-003	JOONK8	Silver, Total	0.43	MG/KG	0.13	1.0
		Arsenic, Total	7.8	MG/KG	0.35	1.0
		Barium, Total	1290	MG/KG	0.02	1.0
		Cadmium, Total	17.8	MG/KG	0.04	1.0
		Chromium, Total	96.0	MG/KG	0.11	1.0
		Mercury, Total	0.16	MG/KG	0.02	1.0
		Lead, Total	4500	MG/KG	0.25	1.0
		Selenium, Total	0.89	MG/KG	0.45	1.0
		4:1 m -t-1	0.41	MO /VC	0.11	1.0
-007	J00NK9	Silver, Total	0.11 u 2.4	-	0.11 0.31	1.0
		Arsenic, Total	72.0	MG/KG MG/KG	0.02	1.0
		Barium, Total	72.0 0.04 u	-	0.02	1.0
		Cadmium, Total				1.0
		Chromium, Total	12.0 0.02	MG/KG MG/KG	0.09	1.0
		Mercury, Total				
		Lead, Total	4.4	MG/KG	0.22	1.0
		Selenium, Total	0.40 u	MG/KG	0.40	1.0

INORGANICS METHOD BLANK DATA SUMMARY PAGE 05/27/03

CLIENT: TNUHANFORD B03-015 H2222 LVL LOT #: 0305L432

						REPORTING	DILUTION
:	SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	LIMIT	FACTOR
1	e=====	*********	京城北京市市农村市市市市市市市市市市市市	EEESSS==	EEEEE		======================================
1	BLANK1	03L0269-MB1	Silver, Total	0.12 u	MG/KG	0.12	1 . G
			Arsenic, Total	0.33 u	MG/KG	0.33	1.0
			Barium, Total	0.04	MG/KG	0.02	1.0
			Cadmium, Total	0.04 u	MG/KG	0.04	1.0
			Chromium, Total	0.14	MG/KG	0.10	1.0
			Lead, Total	0.23 u	MG/KG	0.23	1.0
			Selenium, Total	0.42 u	MG/KG	0.42	1.0
I	BLANK1	03C0122-MB1	Mercury, Total	0.02 u	MG/KG	0.02	1.0

INORGANICS ACCURACY REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222

LVL LOT #: 0305L432

WARK	APPPP.	11343-606-001-9999-00
WORK	OKDEK:	11343-606-001-3333-00

			SPIKED	INITIAL	SPIKED		DILUTION
SAMPLE	SITE ID	ANALYTE	SAMPLE	RESULT	AMOUNT	*RBCOV	FACTOR (SPK)
==±====	医长生型共享 医医疗性医腺体积 医生 毒性	********	*====#			*****	======================================
-002	JOONK7	Silver, Total	5,7	0.68	5.4	92.9	1.0
		Arsenic, Total	200	7.9	215	89.0	1.0
		Barium, Total	1640	1410	215	105.2*	1.0
		Cadmium, Total	24.8	22.6	5.4	40.7*	1.0
		Chromium, Total	156	165	21.5	-40. *	1.0
		Mercury, Total	0,34	0.22	0.10	72.1	1.0
		Lead, Total	6370	5950	53.8	776.6*	1.0
		Selenium, Total	186	1.1	215	85.7	1.0

INORGANICS PRECISION REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222

LVL LOT #: 0305L432

			INITIAL			DILUTION
SAMPLE	SITE ID	ANALYTE	RESULT	REPLICATE	RPD	FACTOR (REP)
		**************	******		****	
-002REP	J00NK7	Silver, Total	0.68	0.63	8.0	1.0
		Arsenic, Total	7.9	6.7	16.4	1.0
		Barium, Total	1410	1510	6.7	1.0
		Cadmium, Total	22.6	22.5	0.44	1.0
		Chromium, Total	165	105	44.2	1.0
		Mercury, Total	0.22	0.18	18.5	1.0
		Lead, Total	5950	5610	5.9	1.0
		Selenium, Total	1.1	1.3	16.7	1.0

INORGANICS LABORATORY CONTROL STANDARDS REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222

LVL LOT #: 0305L432

			SLIVED	SPIKED		
SAMPLE	SITE ID	ANALYTE	SAMPLE	THUOMA	UNITS	RECOV
		****		*****		=====
LCS1	03L0269-LC1	Silver, LCS	49.0	50.0	MG/KG	98.0
		Arsenic, LCS	925	1000	MG/KG	92.5
		Barium, LCS	494	500	MG/KG	98.6
		Cadmium, LCS	24.3	25.0	MG/KG	97.2
		Chromium, LCS	50.5	50.0	MG/KG	101.0
		Lead, LCS	243	250	MG/KG	97.3
		Selenium, LCS	869	1000	MG/KG	86.9
LCS1	03C0122-LC1	Mercury, LCS	6.8	6.2	MG/KG	109.8

Lionville Labor			usto	_	ansfe									es C	t Pa	ge_ <u>1</u>	_of	- E	1	Ü	HONVILLE	NOS YEORY NO.
Client	Nu-	Hendred	<u> 603</u>	-015			Refriger	rator#			٧											
Est. Final Pro	j. Samı	pling Date 13 43 - 606 ·	001-9	999-0	<u> </u>		#/Type	Container	Liquid Solid		امه	امه	7	lan			عما	lQa		ما	las	
Project Conta	ict/Pho					2	Volume)	Liquid Solid			asb	1	358		_	(₆ ()	190		90	40	
ac spece	——		TAT				Preserv	/atives						-			-					
		· 03	•	1			ANALY		-	VOA		Post PCB PCB	Herb	PC6				ORG		S. Hak	正	
MATRIX	Ī				Mati	rix			7		1		1	<u></u>	<u> </u>	lle La			se Only	<u> </u>	1	
CODES: S - Soil SE - Sediment SO - Solid	Lab 10	Сін	ent ID/Descrip	ption	Chos	sen ')	Matrix	Date Collecte	Time d Collected		0625H	OG OB H	PHBGA	ORB			Mecregro	TCANTO		ISFD	IPHC	
SL - Sludge W - Water	-	TOON		-	MS	MSD	_			┼-	,	_	+ -	+0	} -		7	14	+	H	 - ₩	
O - Oil A - Air	001						S	5-13-0	3 0500	-	Ϋ́	X	×	┼	-		X	 ×	+	X	_	
DS - Drum Solids	002							++	7	+-	10	X	×	-	11	-	X	Ŷ	+	$\stackrel{\mathcal{S}}{\times}$		
DL - Drum Liquids	003						- -	45 18 1	B 0830	-	X				<u> </u>		X	+~	+	$\overline{}$	-	
L - EP/TCLP Leachate	004	TOON	N7 3	~			-	J. M.C	0900					V		==	₩	-		1		
WI - Wipe X - Other	COE		70 4	str.	- + -		 	1-1-	1010	 				X			 	-	1-1	-		1-1-
F - Fish	000	· · · · · · · · · · · · · · · · · ·	KO -				 	5.51	8 1990		X	X	$\frac{1}{x}$		94	`	文	X	1	X	$\overline{}$	1-1-
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Special Instruc	 ctions:	SAF #	- Bo3 -	015		DATE S-20	REVISIO	NS:	os - 004	- 005	-001	- 401	40	<u> </u>	3021	120	<u> </u>		Lionville	Labo	ratory Use (Only
	Run	Matrix						1. AM 2. A 3	7 OHB!	x_f	- 1	007					- ; - ;	1) Shipp Hand Do Airbill # 	s were: ped elivered ent or Chil		1) Prese Package 2) Unbro Package	isistant Seal was int on Outer Y or N iken on Outer Y or N int on Sample
9 2.02	<u></u>				Relinquis	sheri		5 6					1 [olor Pat		- (Conditio 4) Same	xe(∑) or	N d	COC Re	or N cord Present
Relinquishe by	9 0	Received by	Date	Time	by			by	ORIG		Ц	me	Sa	mples l	cies Bet abels a ord? Y	nd/S			rived Withi		Upon Sa	imple Rec't Y or N
n deoptr		Demier	5.17.02	1155		WAS	SITE		REWR		EN		NO	TES:	920		,	Holding A	Y or		Temp	<u>0,3 .</u> 4 <i>4</i> 33∶

Bechtel H	anford Inc.		IAIN OF CUST	ODY/S	AMP	LE.	ANA	∟Y	<u> SIS K</u>	EQUES.	<u> </u>			<u>-</u>		
Collector Fahlberg			nv Contact ankovich	Telephor 531-76						roiect Coord ESSNER, JH	nator	Price Code 8B			Data Turi	-
Project Designation Remaining Sites Conf	irmation Sampling-Soil	Sampli 600-	ng Location 139							AF No. 03-015		Air Quality				ays
Ice Chest No.	C 96039	Field I EL1	Joebook No. 577	COA C17H	COA C17HXU671C				Method of Shipment Fed EX							
Shipped ToTMA/RECRA	:	Offsite	Property No.	30	231				B	ill of Lading	Air Bill	No. Se	E 09	SPC		
POSSIBLE SAMPLE	HAZARDS/REMARKS					1		A				- 1	1	1	Ì	;
Non-Rad Area, No Acti	ivity Report Required		Preservation	None	Cool		Cool 4C	1		<u> </u>						!
Special Handling ar	nd/or Storage	!	Type of Container	aG	aG	-4	aG	Д			<u> </u>	_}_				
	COO! 4°C		No. of Container(s)	11	1	1	1			<u>.j</u>						
	C0011 -		Volume	60mL	120n	nL .	60mI					}	}	}		
	SAMPLE ANAL	YSIS		See item (1) in Special Instructions.	Semi-V 8270A (OA - (TCL)	N () () () () () () () () () (7								
Sample No.	Matrix *	Sample Date	Sample Time	7 4 7 19			e lez						To day leads	35 W 31	1.11.6-2-41	ag more on
JOONLO	SOIL	5.13.0	3 0900	×	х		I_{-}									<u>.</u>
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					T						<u> </u>					<u> </u>
					7	/										
CHAIN OF POS	SESSION	Sign/Prin				SPEC	IAL INS	TRI	UCTION	S					_	Matrix *
Relinquished By/Removed	From Date/Time 28 51603 1100 From Date/Time	Received By/Sto	1728 5. medinyst_ 516	Pate/Time 14 13 · 03 Pate/Time 03 11 Pate/Time			P Metals ry - 7471			nt List) (Arsenio	, Barium, (Cadmium, Ch	romium, Les	ad, Seleniu	m, Silver};	S=Soli SE=Sediment SO=Solid SI=Studge W = Water O=Oli A=Air DS=Drum Solids DL=Drum Liquids
Relinguished By/Removed	From Date/Time	Received By St	pred In D	Sate/Time												T=Thane Wi=Wipe L=Liquid
Relinquished By/Removed	5-17-03 1155 From Date/Time		Date/Time		r	elinquis	h sar		om the 3728						V=Vegetation X=Other	
Relinquished By/Removed	From Date/Time	ored in E	Date/Time Ref # 3A on 5 /16 / 03													
LABORATORY R	leccived By			1	Title										ate/Time	· · · · · · · · · · · · · · · · · · ·
FINAL SAMPLE DISPOSITION	Disposal Method						Ū)ispos	sed By						Date/Time	

Bechtel Hanfor	d Inc.	CI	IAIN OF CUST	ODY/S	AMPLE	ANALY	YSIS	RI	EQUEST		B0	3-015-98	Page 1	of 1
Collector Fahlberg			nv Contact tankovich	Telephor 531-76					olect Coordin SSNER, JH	ator	Price Code 8B		Data Tur	
Project Designation Remaining Sites Confirmation	n Sampling-Soil	Samoli 600-	ing Location -139						F No. 3-015		Air Quality 🗍		7 D	ays
Ice Chest No. ERC	16 039	Field I EL!	Logbook No. 577		COA C17HXU6	71C		1	ethod of Ships Fed EX	nent				
Shipped To TM_(/RECRA)	Property No.	030231 Bill of Lading/Air Bill ?						Air Bill N	o. SEE	057	<u>></u> (
POSSIBLE SAMPLE HAZA Non-Rad Area, No Activity Rep			Preservation	None	Cool 4C	Cool 4C	Cool	4C	Cool 4C	Cool 4C				:
Special Handling and/or S	torogo		Type of Container	aG	аG	aG	aG	1	аG	аĜ				
	4°C		No. of Container(s)	1		1		\int	1	1				
	•		Volume	60mL	240mL	120mL	6017	7	120mL]20mL		}		
	SAMPLE ANAL	YSIS		See item (1) in Special Instructions,	PCBs - 8082; Pesticides - 8081; Chloro- Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	W.	2601	Sulfides - 9030	Total Cyanide - 90	010			
Sample No.	Matrix *	Sample Date	Sample Time	1994	F. SA		宣復			direct s				67,63
JOONK7	SOIL	5-13-0		<u> </u>	<u> </u>	<u> </u>	₩-		<u> </u>	×				
/ J00NK8	SOIL	5.13.0	3 8920	<u> </u>		_ ×_	₩-		X	<u>×</u>			 	
	 			 	 		#		 	ļ			 	
				 -	 	 	1		 					
CHAIN OF POSSESSIO	N	Sign/Prin				TAL INSTI	RUCTI	ONS	<u> </u>				<u> </u>	Matrix *
Relinquished By/Removed From K. F. 200 R. T. E. 11 Relinquished By/Removed From B. F. 3A 3728 Relinquished By/Removed From GALE A. C. S. Relinquished By/Removed From Relinquished By/Removed From	Date/Time 51603 1100 Date/Time	Received By/Sto SJGAU Received By/Sto FED	ored in Dored Date/Time	(1) If Merc	CP Metals - 60 ury - 7471 - (0		Client	List) (Arsenic,	Barium, Ca	dmium, Chromi	um, Lead, Sele	nium, Silver};	S=56II SE=5ediment SO=5ediment SO=5edid SN=5tedge W = Water O=ONI A=Air DS=Dram Solids DL=Dram Liquid: T=Tissue Wi=Wipe L=Liquid	
	S(a) & 5.703 1155 4/ mil 5					relinavi	ish sam	mles	lable to from the 372	28 <u>3</u>				V=Vegetation X=Other
Relinquished By/Removed From	telinquished By/Removed From Date/Time Received By/Stored In													<u> </u>
LABORATORY Received E	Зу	!		1	Title						· ·		Date/Time	
FINAL SAMPLE Disposal N DISPOSITION	Method					Disp	osed By						Date/Time	

Bechtel Hanfo	rd Inc.	CI	IAIN OF CUST	ODY/S	AMPL	E ANA	LYSI	S RI	EQUEST		803	-U15-1UJ	1			
Collector Doug Bowers			Company Contact Telephone No. Project Coordi Mike Stankovich 372-9082 KESSNER, JH							nator P	Price Code 8B Data Tu			naround		
Project Designation Remaining Sites Confirmation	on Sampling-Soil	Sampli	Sampling Location 600-181 oil dump area							A	Air Quality			ays		
Ice Chest No. ERC	19 055		Field Logbook No. COA Method of EL-1578 C17HXU671C Fed Ex													
Shipped To TMA/RECRA	· · · · · · · · · · · · · · · · · · ·	Offsite	Offsite Property No. A030232 Bill of La							iding/Air Bill No. SEE OSP.C						
POSSIBLE SAMPLE HAZ	ARDS/REMARKS		Preservation	None	Cool 4C	Cool 40	Λ									
Special Handling and/or	Storage	İ	Type of Container	яG	аG	aG										
opecial training and/or	0101260		No. of Container(s)	60mL	1 120mL	1 60ml			 		 	<u> </u>	 			
\ 		- <u>-</u>	Volume			1_1			<u> </u>		 	 	<u> </u>			
	SAMPLE ANA	LYSIS		See item (1) in Special Instructions.	\$270A (TCI			,								
Sample No.	Matrix *	Sample Date	Sample Time		4			A U &								
J00NP0	SOIL	5-14-03	0830	Х	X	/X	5						 			
									 	}	 		 			
CHAIN OF POSSESS	ION	Sign/Prin	t Names	1	SPI	ECIAL INS	TRUC	TIONS	<u> </u>	i	J		<u> </u>	Matrix *		
Relinquished By/Removed From Dog	cm 5-14-03/1130		3728 5-14	Pate/Time	/ ме	rcury - 7471	- (CV)		t List) (Arsenic,	_		,		S=Sofi SE=Sofiment SO=Sofid SI=Sludge		
Relinquished By/Removed From KET 3A 3728 5	Date/Time 1603 1100	Received By/Sto	JAL 5160	3 10	00	Do	no	+	usp	for	Q.4	/ QC	-	W = Water O=Oil A=Atr		
Retinquished By/Removed From SSGALEN Sol	Date/Time 1100	Received By/Sto	<u> EX</u>	Pate/Time		U	•	`	V	•	• •	/ "		DS=Drum Solids DL=Drum Liquids T=Tissue		
Relinquished By/Removed From	Date/Time	-1 <i>DV</i> (Date/Time Date/Time 5.17.03 155 Person					Personnel not available to								
Relinquished By/Removed From	elinquished By/Removed From Date/Time Received By				r	relinquish camples from the 3728 Ref # 3 on 5 / 16 / 3								X=Other		
Relinquished By/Removed From	Sindanes Dy. Control				d By/Stored In Date/Time								Date/Time	<u> </u>		
LABORATORY Received SECTION	ву				i iliç	·										
FINAL SAMPLE Disposal DISPOSITION	Method					t	risposed 1	Ву					Date/Time			

Remaining Sites Confirmation Sampling Soil 600-181 old dump area B03-015 Fill Quality	Bechtel Hanford	d Inc.	C	HAIN OF CUST	ODY/S	AMP	LE	ANALY	SIS	RE	QUES1			В03-	015-102	Page 1	of 1
Remining Sing Confirmation Sampling-Soil 660-181 oil dump are 150												nator	Price	Code	8B		
Shored Jack Marker Description Offsite Property No. A 3 2 2 3 2 Bill of Ladine/Air Bill No. See Section Marker Property No. A 3 2 2 3 2 Section A 3 2 3 2 3 Section A 3 2 3 2 3 Section A 3 2 3 3 Section A 3 3 2 3 Section A 3 3 2 3 Section A 3 3 2 3 Section A 3 3 2 3 Section A 3 3 2 3 Section A 3 3 2 3 Section A 3 3 3 3 Section A 3 3 3 3 3 Section A 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Project Designation Remaining Sites Confirmation	Sampling-Soil							ļ				Air Q	uality		7 D	ays
Shored Jack Marker Description Offsite Property No. A 3 2 2 3 2 Bill of Ladine/Air Bill No. See Section Marker Property No. A 3 2 2 3 2 Section A 3 2 3 2 3 Section A 3 2 3 2 3 Section A 3 2 3 3 Section A 3 3 2 3 Section A 3 3 2 3 Section A 3 3 2 3 Section A 3 3 2 3 Section A 3 3 2 3 Section A 3 3 2 3 Section A 3 3 3 3 Section A 3 3 3 3 3 Section A 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Ice Chest No. ERC 99	055						1C	_	_Fe	ed Ex						
Preservation None Cool 4C Cool	Shipped To- TMA/RECRA		Offsit	e Property No.	030	2_3	って			Bill of Lading/Air Bill No. 5 =				: 			
Special Handling and/or Storage Type of Container of	POSSIBLE SAMPLE HAZAI	RDS/REMARKS]											
Special Handling and/or Storage Type of Container()				Preservation	None	Cool	I4C	Coot 4C	Cool	4C	400						
SAMPLE ANALYSIS Sample No. Matrix * Sample Date Sample Time Sample Time Society Sample Time Sample Time Sample Time Sample Date Sample Time Sample Date Sample Time Sample Date Sample Time Sample Date Sample Time Sample Date Sample Time Sample Date Sample Date Sample Time Sample Date Sample	Special Handling and/or S	torage		Type of Container	aG	4			aG	; 	26						
Sample No. Matrix * Sample Date Sample Time Social Introduction Special Introduction Interview Introduction Interview Introduction Interview Introduction Interview Introduction Interview Interview Interview Interview Interview Interview Interview Interview Interview Interview Interview Interview Interview Interview Interview Interview Intervie		5		No. of Container(s)	1		!	1	. 1		1						<u> </u>
SAMPLE ANALYSIS Special Instructions Special Instructions State				Volume	60mJL	250	mL	120mL	60n	πL	60 m						
JONNS SOIL 5-14-03 0 900 Y X X X J JONNS SOIL 5-14-03 0 900 Y X X X JONNS SOIL 5-14-03 0 900 Y X X X JONNS SOIL 5-14-03 0 900 Y X X X CHAIN OF POSSESSION Sign/Print Names Relinquished By/Removed from 0 0 0 0 10 Date/Time Relinquished By/Removed from 0 0 0 0 10 Date/Time Relinquished By/Removed From Date/Time Received By/Shored In Date/Time Date/Time				Special	Pestic 8081; (Herbit El A	cider- Cyloro- cides - (8151			L)	(total)			-				
JONN8 SOIL 5 7/4 - e 3 0 900 Y X JONNS SOIL 5 7/4 - e 3 0 900 Y X CHAIN OF POSSESSION Relinquished By/Removed from 0 e 4 2 Date/Time Relinquished By/Removed from 0 e 4 2 Date/Time Relinquished By/Removed From Date/Time Relinquished By/Removed From Date/Time Relinquished By/Removed From Date/Time Relinquished By/Removed From Date/Time Relinquished By/Removed From Date/Time Relinquished By/Removed From Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Received By/Removed From Date/Time Received By/Stored In Date/Time R				Sample Time	10.00			****				7					2.05
CHAIN OF POSSESSION Sign/Print Names Reginquished By/Removed From 0 0 4 9 Date/Time Received By/Stored In Possession Received By/Stored In Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time	J00NN7	SOIL	5-14-0	3 0900	X)	X	X_{-}				<u> </u>	Ĺ		L	<u> </u>	
CHAIN OF POSSESSION Relinquished By/Removed From Date/Time Received By/Stored In Date/Time	J00NN8	SOIL	5-14-0	3 0400	Y.		<u> </u>	X			ļ	_			<u> </u>	ļ	ļ
CHAIN OF POSSESSION Sign/Print Names Reiniquished By/Removed From Date/Time Received By/Stored In Date/Time Personnel not available to relinquish samples from the 3728, Ref # 37 on 5 16 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	T	30IL-			<u> </u>							<u> </u>			<u> </u>	<u> </u>	<u> </u>
CHAIN OF POSSESSION Relinquished By/Removed From 0 4.9 Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Date/Time Received By/Stored In Date/Time Date/Time Received By/Stored In Date/Time Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Personnel not available to relinquish samples from the 3728 Relinquished By/Removed From Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Personnel not available to relinquish samples from the 3728 Ref #	10 41 7-14-03								<u> </u>				\bot			<u> </u>	ļ
CHAIN OF POSSESSION Relinquished By/Removed From 0 4.9 Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Date/Time Received By/Stored In Date/Time Date/Time Received By/Stored In Date/Time Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Personnel not available to relinquish samples from the 3728 Relinquished By/Removed From Date/Time Received By/Stored In Date/Time Received By/Stored In Date/Time Personnel not available to relinquish samples from the 3728 Ref #									<u> </u>			<u> </u>			<u> </u>	<u> </u>	<u> </u>
Relinquished By/Removed From Date/Time Received By/Stored In Date/Time Personnel not available to relinquished By/Removed From Date/Time Received By/Stored In Date/Time Personnel not available to relinquished By/Removed From Date/Time Received By/Stored In Date/Time Personnel not available to relinquished By/Removed From Date/Time Received By/Stored In Date/Time Personnel not available to relinquished By/Removed From Date/Time Received By/Stored In Date/Time Personnel not available to relinquish samples from the 3728 Ref # 37 on 5 1/6 1/6 3 LABORATORY Received By SEC-defined So-Solds Wereury - 7471 - (CV) Mercury - 7471 - (CV) Mercury - 7471 - (CV) Mercury - 7471 - (CV) Mercury - 7471 - (CV) Mercury - 7471 - (CV) Date/Time Personnel not available to relinquish samples from the 3728 Ref # 37 on 5 1/6 1/6 3 LABORATORY Received By Title Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time							SPEC	IAL INSTE	UCTI	ONS							Matrix *
Relinquished By/Removed From Date/Time Received By/Stored In Date/Time relinquish samples from the 3728 Relinquished By/Removed From Date/Time Received By/Stored In Date/Time LABORATORY SECTION Received By Date/Time Title Date/Time Date/Time Date/Time Date/Time	Relinquished By/Removed From Dough To 14.03/1130 Received By/Stored In Date/Time Relinquished By/Removed From Dough To 14.03/1130 Received By/Stored In Date/Time Relinquished By/Removed From Dough To 14.03/1130 Received By/Stored In Dough Time Relinquished By/Removed From Dough Time Received By/Stored In Dough Time Received By/Stored In Dough Time Received By/Stored In Dough Time Received By/Stored In Dough Time Received By/Stored In Dough Time Received By/Stored In Dough Time Received By/Stored In Dough Time						St-Sediment SO-Solid SI-Stedge W = Water O-Oil A-Air DS-Drum Solids DL-Drum Liquid T-Tissue Wi-Wipe L-Liquid										
SECTION Received By Date/Time	Relinquished By/Removed From Date/Time Received By/Stored In Date/Time					rel Re	inquish sam f#or	ples fr	om th	ne 3728 5 1 0 3						X=Other	
Disposed By Date/Time	Tribore in a	y				Title	L									Date/Time	
it with merian are in the	SECTION	lethod	<u> </u>					Dispo	sed By							Date/Time	

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Bechtel Hanfo	rd Inc.	CI	IAIN OF CUST	ODY/S	AMPI	LE ANAL	YSIS	RI	EQUEST		B03	-015-99	Page 1	of <u>1</u>
Collector Fahlberg			nv Contact tankovích	Telephor 531-7					piect Coordin SSNER, JH	ator Pr	ice Code	8B	Data Tur	naround
Proiect Designation Remaining Sites Confirmati	on Sampling-Soil	Samoli 600-	ing Location 139						F No. 3-015	Ai	r Quality		7 D	ays
Ice Chest No. ERC 9	6 039	Field I EL1	Jogbook No. 577		COA C17HX	(U671C			thod of Ships Fed EX	-		<u> </u>		
Shipped ToTMA(RECRA)	<u> </u>	Offsite	Property No. AC	302	-31	<u></u>		Bil	ll of Lading/	Air Bill No.	32	03/	یے د	
POSSIBLE SAMPLE HAZ	ARDS/REMARKS			1	1	· •			A i		{			
Non-Rad Area, No Activity R	eport Required		Preservation	None	Cool 40	C Cool 4C	Cool	4C	Cool 4C	Cool 4C	Cool 4C			
Special Handling and/or	Storage		Type of Container	åG	aG	aG	a		aG	aG	aG			
, -	450		No. of Container(s)	1	1 RIN5		1	4	l l	1	1			
{			Volume	60mL	240mi		60r	4	60mL	120mL	120mL			
	SAMPLE ANAL	YSIS		See item (1) in Special Instructions.	PCBs - 80 Pesticide	082; Semi-VOA es - 8270A (TCI loro- es -			TPH (Total) - 418.1	Sulfides - 9030	Total Cyanide - 9010			
Sample No.	Matrix *	Sample Date	Sample Time	Jan 184										
JOONK9	SOIL	5.15.03	> 1220	X	X	X	\prod		X	X	<u>بر</u>			
							1/_		<u> </u>		 	 	 	
				 -	 				 		 	 	 	
	- 			 	+		₩-		 -		 	 	 	
CHAIN OF POSSESS	ION	Sign/Prin	I Names	1	S	PECIAL INST	RUCTI	ONS	 }	<u> </u>		<u> </u>	<u> </u>	Matrix *
Relinquished By/Removed From R 5000 R-61	Date/Time 153	Received By/Sto	med in 3A D 3728 5-18	Date/Time 15	30	(1) ICP Metals - Mercury - 7471 -	6010TR (6			Barium, Cadr	nium, Chromius	n, Lead, Selen	nium, Silver};	S=Soll SE=Sollment SO=Solid Si=Slodge
Relinquished By/Removed From REF 3A 372 Relinquished By/Removed From		Received By/Sto	3/201- 516		00		-							W = Water O=Oil A=Ale DS=Drum Solids
BIGALE Aldel	51603 1100 Date/Time	Received By/Sto		ate/Time										DL=Drum Liquid T=Tissue WI=Wipe
Relinquished By/Removed From	5.17.03 1155	170	517 nein	03 115	5	Personnel	not avail	ahle	to					L=Liquid V=Vegetation X=Other
Relinquished By/Removed From	Date/Time	Received By/Sto	жа ш	Date/Time		relinquish Ref# 3/	samples	from	the 3728					35.5
Relinquished By/Removed From	Date/Time	Received By/Sto	ored In I	Pate/Time	}	· · · · · · · ·			<u> </u>					<u> </u>
LABORATORY Received	Ву				Title								Date/Time	
SECTION FINAL SAMPLE Disposal	Method					Di	sposed By						Date/Time	
DISPOSITION														

Bechtel Hanfor	d Inc.	CH	IAIN OF CUST	ODY/S	AMPLE	ANALY	SIS	REQUEST		B03-	015-102	Page 1 o	f 1
Collector Doug Bowers			nv Contact Stankovich	Telephoi 372-90				Project Coordinat KESSNER, JH	or P	rice Code	8B	Data Turn	· 1
Project Designation Remaining Sites Confirmation	n Sampling-Soil		ng Location 181 oil dump area					SAF No. B03-015	A	ir Quality		7 D:	ays
Ice Chest No.	99 055	Field L EL-	Logbook No. 1578		COA C17HXU	71C		Method of Shipme Fed Ex	ent				
Shipped To TM (ORECRA	- · · - · · · ·	Offsite	Property No.	130	252			Bill of Lading/Air	r Bill No	. SEE	0572	_	
POSSIBLE SAMPLE HAZA	RDS/REMARKS				T							_	
			Preservation	None	Cool 4C	Cool 4C	Cool	4C Y°C					·- - _
Special Handling and/or S	torage		Type of Container	aG	aG	aG	aC	av	 				
			No. of Container(s)	60mL	250mL	1 120mL	60n						
<u></u>			Volume	<u> </u>				1 1 1 1					
SAMPLE ANALYSIS				See item (1) in Special Instructions.	Pesticides -	Semi-VOA - 8270A (TCL)	VOA - 1						
Sample No.	Matrix *	Sample Date	Sample Time	i							en grande Grande	Maria Andreas Walter	
JOONNY X 19	SOIL						<u> </u>						<u> </u>
JOONNE 5-14-03	SOIL	2	7 7 7 7 7	 		 	 -						-
	SOIL	5-17-0	1300	X	 X -	 	-	$-+$ \xrightarrow{X} $+$	<u> </u>				}
	 			┤	-	+	╁╌	- 			 		<u> </u>
CHAIN OF POSSESSION	<u> </u>	Sign/Prin	it Names	<u></u>	SPE	CIAL INST	RUCTI	ONS					Matrix *
Relinquished By/Removed From Refinquished By/Removed From Refinquished By/Removed From Relinquished By/Removed From SJ PALSN Pel	Date/Time 5 6 3 1100 Date/Time 5 6 3 1100 Date/Time	Received By/Sto	4 3728 5-1 000 10 10 10 10 10 10 10 10 10 10 10 10	Date/Time 5-43/ Date/Time O3/ Date/Time	(4 30 (1) (OO)	ICP Metals - 60 er }; Mercury - 1	010TR ((7471 - ((Client List) (Arsenic, Bi CV)	arium, Cad	dmium, Chromiu	m, Lead, Seleni	um,	\$-Soil \$E-Sediment \$O-Solid \$I-Shadge W = Water O-Oil A-Air DS-Drum Liquid T=Tissue
Relinquished By/Removed From Relinquished By/Removed From	Date/Time - 17-03 \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	Received BySte	Much 5.17 Soled in I	Date/Time Date/Time	55	Personnel no relinquish sa Ref # 34	imples	able to from the 3728					WI-Wipe L-Liquid V=Vegetation X=Other
Relinquished By/Removed From					Title				<u> </u>		<u></u>	Date/Time	L
LABORATORY Received I SECTION	Зу				<u></u>								
FINAL SAMPLE Disposal N DISPOSITION	Method	-			· -	Disp	osed By	,			!	Date/Time	

LIONVILLE LABORATORY INCORPORATED SAMPLE RECEIPT CHECKLIST

. ,		
IENT:	TNU	Ha

TNU Handord

chase Order/Project:

DATE:

5.17.03.

F# SOW# / Release #:

B03-015

poratory SDG #:

1305L432 TE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION Custody seals on coolers or shipping D No DNA see Comment # container intact, signed and dated? Outside of coolers or shipping containers are D No DNA ☐ see Comment # free from damage? Airbill # recorded? 3. □ No D N/A ☐ see Comment # All expected paperwork received (coc and Q)Yes D No D N/A ☐ see Comment # other client specific: historical data. alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid) Sample containers are intact? C Yes □ No DNA see Comment # Custody seals on sample containers intact, Q Yes D No DNA ☐ sec Comment # signed and dated? All samples on coc received? 🖒 Yes D No D see Comment # D N/A ₩ Yes see Comment # D No D N/A All sample label information matches coc? 8. Laboratory QC samples designated on coc? ☐ Yes □ No **Y**DON/A See Comment # (QC stickers placed on bottles?) 10. Shipment meets LvLl Sample Acceptance D No D N/A ☐ sec Comment # Policy? (identify all bottles not within policy. See reverse side for policy) 11. Where applicable, bar code labels are D-N/A ☐ Yes D No D see Comment # affixed to coc? 127Yes D No D N/A ☐ see Comment # 12. coc signed and dated? E Yes 13. coc will be faxed or emailed to client? D No sec Comment # D N/A 14. Project Manager/Client contacted D Yes ☐ see Comment # D No concerning discrepancies? (name/date)

Cooler # / temp (°C) and Comments:

ERC 99 055/0.8°-

ERC 96039/0,3°C

Laboratory Sample Custodian:

Laboratory Project Manager:

(timp). O



Lionville Laboratory, Inc. INORGANIC ANALYTICAL DATA PACKAGE FOR TNUHANFORD B03-015 H2222

DATE RECEIVED: 05/17/03

TOTAL CYANIDE

TOTAL CYANIDE

TOTAL CYANIDE

SULFIDE

SULFIDE

LCS L

LCS L

MB1 BS

MB1

MB1

CLIENT ID /ANALYSIS	TAT	#	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYS
JOONLO							
% SOLIDS	001		S	03L%S068	05/13/03	05/20/03	05/21/
% SOLIDS	001	REP	S	03L%S068	05/13/03	05/20/03	05/21/
J00NK7							
% SOLIDS	002		s	03L%S068	05/13/03	05/20/03	05/21/
TOTAL CYANIDE	002		S	03LC047	05/13/03	05/22/03	05/22/
SULFIDE	002		S	03LSD022	05/13/03	05/23/03	05/23/
J00NK8							
% SOLIDS	003		s	03L%S068	05/13/03	05/20/03	05/21/
TOTAL CYANIDE	003		S	03LC047	05/13/03	05/22/03	05/22/
SULFIDE	003		S	03LSD022	05/13/03	05/23/03	05/23/
J00 N K9							
% SOLIDS	007		S	03L%S068	05/15/03	05/20/03	05/21/
TOTAL CYANIDE	007		S	03LC047	05/15/03	05/22/03	05/22/
TOTAL CYANIDE	007		S	03LC047	05/15/03	05/22/03	05/22/
TOTAL CYANIDE PETROLEUM HYDROCARBO	007 007	MS	S S	03LC047 03LHC025	05/15/03	05/22/03	05/22/
PETROLEUM HYDROCARBO	007	MC	S	03LHC025	05/15/03 05/15/03	05/19/03 05/19/03	05/20/
PETROLEUM HYDROCARBO	007		S	03LHC025	05/15/03	05/19/03	05/20/ 05/20/
SULFIDE	007		S	03LSD022	05/15/03	05/13/03	05/20/
SULFIDE	007	REP	Š	03LSD022	05/15/03	05/23/03	05/23/
SULFIDE	007		S	03LSD022	05/15/03	05/23/03	05/23/
D 00							
B QC:							

S 03LC047

S 03LSD022

03LC047

03LC047

03LSD022

S

S

S

N/A

N/A

N/A

N/A

N/A

05/22/03

05/22/03

05/22/03

05/23/03

05/23/03

05/22/03

05/22/03

05/22/03

05/23/03

05/23/03

Lionville Laboratory, Inc. INORGANIC ANALYTICAL DATA PACKAGE FOR TNUHANFORD B03-015 H2222

DATE RECEIVED: 05/17/03 LVL LOT # :0305L432

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
PETROLEUM HYDROCARBO	LC1 BS	S	03LHC025	N/A	05/19/03	05/20/03
PETROLEUM HYDROCARBO	MB1	S	03LHC025	N/A	05/19/03	05/20/03



Analytical Report

Client: TNU-HANFORD B03-015 H2222

W.O.#: 11343-606-001-9999-00

Date Received: 05-17-03

LVL#: 0305L432

INORGANIC NARRATIVE

1. This narrative covers the analyses of 4 soil samples.

- 2. The samples were prepared and analyzed in accordance with the methods checked on the attached glossary.
- 3. Sample holding times as required by the method and/or contract were met with the exception of Sulfide.
- 4. The results presented in this report are derived from samples that met LvLI's sample acceptance policy.
- 5. The method blanks were within the method criteria.
- 6. The Laboratory Control Samples (LCS) were within the laboratory control limits.
- 7. The matrix spike recoveries for Total Cyanide, Petroleum Hydrocarbons (PHC) and Sulfide were within the 75-125% control limits. The matrix spike duplicate for PHC was within the 20% Relative Percent Difference (RPD) control limit.
- 8. The replicate analyses for Percent Solids and Total Cyanide were within the 20% RPD control limit, however replicate analysis for Sulfide was outside the control limit that may be attributed to sample inhomogeneity.
- 9. Results for solid samples are reported on a dry weight basis.
- 10. I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this hard copy package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Iain Daniels

Laboratory Manager

Lionville Laboratory Incorporated

пјр\і05-432

Date

The results presented in this report relate to the analytical testing and conditions of the samples upon receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of pages.

Lionville Laboratory Incorporated

WET CHEMISTRY

METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

	<u>ASTM</u>	<u>SW846</u>	<u>OTHER</u>
% Ash	D2216-80		
% Moisture	D2216-80		ILMO4.0 (e)
% Solids	D2216-80		ILMO4.0 (e)
% Volatile Solids	D2216-80		_ 1214104.0 (C)
ASTM Extraction in Water	D3987-81/85		
BTU	D240-87		
CEC	D240-07	9081	
Chromium VI		3060A/7196A	c
Corrosivity by coupon by pH		$\frac{1110 \text{(mod)}}{9010B} = 9045C$	II MO4 0 (a)
Cyanide, Total Cyanide, Reactive		Section 7.3/9014	_ ILMO4.0 (e)
Halides, Extractable Organic		9020B	EPA 600/4/84-008
Halides, Total		- 9020B 9020B	EPA 600/4/84-008
EP Toxicity		— 1310A	EFA 000/4/64-006
Flash Point		1010	
Ignitability		1010	
Oil & Grease	•	— 9071A	
Carbon, Total Organic		90/1A 9060	Lloyd Kahn (mod)
Oxygen Bomb Prep for Anions	D240-87(mod)		_ Lloyd Kaini (inod)
Petroleum Hydrocarbons, Total Rec		- 9071	/EPA 418.1 (mod.)
pH, Soil	Overable	9045C	V LIA 410.1 (MOO(.)
Sulfide, Reactive		Section 7.3/9030B	
Sulfide Sulfide		9030B(mod)	
	D1429-76C/	D5057-90	
Specific Gravity	D1429-76C/		
Sulfur, Total		9056	
Synthetic Preparation Leach		<u> 1312</u>	
Paint Filter	36.4	9095A	
Other:	Method:		
Other:	Method		

Lionville Laboratory Incorporated

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

- U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.
- * = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.

MS = Matrix Spike.

MSD = Matrix Spike Duplicate.

REP = Sample Replicate

LC = Laboratory Control Sample.

NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

- 1. ASTM Standard Methods.
- USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).
- 3. Test Methods for Evaluating Solid Waste (USEPA SW-846).
- a. Standard Methods for the Examination of Water and Waste, 16 ed, (1983).
- b. Standard Methods for the Examination of Water and Waste, 17 ed, (1989)/18ed (1992).
- c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd ed, (1986).
- d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965).
- e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.
- f. Code of Federal Regulations.

INORGANICS DATA SUMMARY REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222

LVL LOT #: 0305L432

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR

-001	J00NL0	* Solids	100	ŧ	0.01	1.0
-002	J00NK7	* Solids	89.3	4	0.01	1.0
		Cyanide, Total	0.38 u	MG/KG	0.38	1.0
		Sulfide	47.B	MG/KG	30.3	1.0
-003	JOONKS	% Solids	88.7		0.01	1.0
		Cyanide, Total	0.50 u	MG/KG	0.50	1.0
		Sulfide	62.3	MG/KG	45.2	1.0
-007	J00NK9	% Solids	94.6	4	0.01	1.0
		Cyanide, Total	0.41 u	MG/KG	0.41	1.0
		Petroleum Hydrocarbons	7.9	MG/KG	3.5	1.0
		Sulfide	35.8	MG/KG	26.0	1.0

INORGANICS METHOD BLANK DATA SUMMARY PAGE 05/27/03

CLIENT: TNUHANFORD B03-015 H2222

LVL LOT #: 0305L432

					REPORTING	DILUTION
SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	LIMIT	FACTOR
			*=====	*****		*******
BLANK1	03LC047-MB1	Cyanide, Total	0.50 u	MG/KG	0.50	1.0
BLANK10	03LSD022-MB1	Sulfide	40.0 u	MG/KG	40.0	1.0
BLANK10	03LHC025-MB1	Petroleum Hydrocarbons	3.3 u	MG/KG	3.3	1.0

INORGANICS ACCURACY REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222 WORK ORDER: 11343-606-001-9999-00 LVL LOT #: 0305L432

			SPIKED	INITIAL	SPIKED		DILUTION
SAMPLE	SITE ID	ANALYTE	SAMPLE	RESULT	TRUOMA	*RBCOV	FACTOR (SPK)
	**********	~======================================	*****	*=====			*******
-007	J00NK9	Cyanide, Total	5.33	0.41u	5.33	L 100.4	1.0
		Petroleum Hydrocarbons	137	7.9	148	87.4	1.0
		Petroleum Hydrocarbons	142	7.9	148	90.B	1.0
		Sulfide	286	35.8	327	76.4	1.0
BLANK10	03LSD022-MB1	Sulfide	412	40.0 ប	453	90.9	1.0
LCS10	03LHC025-LC1	Petroleum Hydrocarbons	128	3.3 u	140	91.2	1.0

INORGANICS DUPLICATE SPIKE REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222

LVL LOT #: 0305L432

WORK ORDER: 11343-606-001-9999-00

			SPIKE#	SPIKE#	2
SAMPLB	SITE ID	ANALYTE	*RBCOV	*RBCOV	*DIFF
*****		**************			
-007	J00NK9	Petroleum Hydrocarbons	87.4	90.8	3.8

INORGANICS PRECISION REPORT 05/27/03

CLIENT: TNUHANPORD B03-015 H2222

LVL LOT #: 0305L432

			T			DILUTION
			INITIAL			
SAMPLE	SITE ID	ANALYTE	RESULT	REPLICATE	RPD	Pactor (Rep)
*****	*					*******
-001REP	JOONLO	% Solids	100	100	0.020	1.0
-007REP	JOONK9	Cyanide, Total	0. 41 u	0.51u	NC	1.0
		Sulfide	35.8	28.3	23.4	1.0

INORGANICS LABORATORY CONTROL STANDARDS REPORT 05/27/03

CLIENT: TNUHANFORD B03-015 H2222

LVL LOT #: 0305L432

			SPIKED	SATKED		
SAMPLE	SITE ID	ANALYTE	SAMPLE	TRUOMA	UNITS	*RECOV
******						# # # # # #
LCSS1	03LC047-LCS1	Cyanide, Total LCS	1.87	2.0	MG/KG	93.7
LCSS2	03LC047-LCS2	Cyanide, Total LCS	10.1	10.0	MG/KG	101.4

Lionville Labo	ratory U	Se Only Custody Tran	isfer l	Rec	ord/L	_ab \	Wo	rk.	Re	que	est	Page_	1_0	f <u> </u>		3/	1	
030	<u>5 L4</u>	32_ FIELD PERS	CONNEL: C	OMPLI	ETE ONL	Y SHAD	DED A	REAS	s ც.	ا سـ	\cap		D	E	F	HONVILL	f LABONATO	ORYING
Client T	NU	Heralded BO3-015		Refrige	rator#			2			<u> </u>						T	Τ
Est. Final Pro	ol. Samp	oling Date		#/Type	Container	Liquid												\prod
Project #	()	CO-PPPP-100.000-EPE		,		Solid		اعم	100	1	<u> </u>		log	104	iag	100		┷
Project Conta	act/Phor	ne #		Volume	1	Liquid	 			-	_		 -	 '		 	-	┼
Lionville Lab	oratory	Project Manager OR Lette John	Vran-	Preserv	vatives	SONO		190	<u>a2</u> p	-1 -2	320	- -	60	136	190	60	<u>-</u>	+-
QC 3FC	=	Del STD TAT 70040		 -				ORG/	ANIC			- - -		ORG	1 2		+	+
Date Rec'd _	5.17	03 Date Due)]	REQUE		-	V OA	BNA	Pest/ PCB	Herb	88		Metal	- KS	S. Ha	픋		
MATRIX			Matrix							1	L	onville La	borate	ory Us		1	<u> </u>	
CODES: S - Soil SE - Sediment SO - Solid	Lab ID	Client ID/Description	Chosen (~)	Matrix	Date Collected	Time Collected		0625H	OCOS H	OHBGY	ORB		MRCANO	TCATO	ISFD	1646	!	
SL - Studge W - Water	001	JOONLO		S	5-13-03	vem		X				_	Y		 		+	+
O - Oil A - Air	ω λ		1	1	1	0920		X	Х	×			X	×	X			
DS - Drum Solids	003	- 1 - 61			1	7		X	Х	X			X	X	X			
DL - Drum Liquids L - EP/TCLP	004				5.4B	0830		X					X					
Leachate WI - Wipe	005	l		ΠI		0900		X			X		X.	<u> </u>				
X - Other F - Fish	006	1			1-1	<u>L</u>		X			X		X	<u> </u>				
r - tisit	2007			11	51508	1220		X	X				X	X	X	\leftarrow	<u> </u>	_
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Special Instruc		SAF # BO3-015 Matrix QC (Do Not Use-00			1 2 3 4 5								- 1) Hi Ai - 2) - 3) Co	amples Shippe and Del irbill # _ Ambie Receive	nt or Chilleb	Tamper R 1) Press Package 2) Unbre Package 3) Press 4) Unbre	Resistant Sent on Ocean on Sent on Sen	Outer r N Outer r N Sample or N
Relinquisher	1 7	by Date Time	elinquished by			RIGI EWRI		Tim	•	Sample	es Labe lecord?	Between Is and Y of N	P ₁ اــــــــــــــــــــــــــــــــــــ	roperty	Preserved (Y) or N red Within Times	COC Re Upon Sa Cooler	ecord Priample R	resent lec't or N
TROCK	- x	Smun 5.17.07 1153	WAS					-		790		<u> </u>	170	<u> </u>	8 - Ja	. Temp. <u>22-50)</u>		Ն ∘c <u>333</u>

Bechtel Hanfo	ord Inc.	CI	HAIN UF CUST	UDY/S/	AIVIT	بطط	ANAL	1 313	<u>NC</u>	VOESI	1		~~~		<u> </u>	
Collector Fahlberg			nnv Contact tankovich	Telephon 531-76						iect Coordi SNER, JH	nator	Pric	e Code	8B		rnaround 🧃
Project Designation Remaining Sites Confirmati	on Sampling-Soil		ing Location -139	··	_				1	No. -015		Air	Quality		71	Days -
ice Chest No.	96039	Field I EL1	Logbook No. 577		COA C17H2		IC			hod of Ship ed EX	ment					
Shipped ToTMATRECRA	<u>.</u>	Offsite	Property No.	0302	3/				Bill	of Lading/	Air Bill	No.	See	OSP (
POSSIBLE SAMPLE HAZ	ARDS/REMARKS		-			ı	i	1								
Non-Rad Area, No Activity R	eport Required		Preservation	None	Cool 4		Cool 4C		_			[_				
Special Handling and/or	Storage		Type of Container	aG	aG		aG /					_			· · · · · · · · · · · · · · · · · · ·	
	C00/4°C		No. of Container(s)	1	1		1									
	C80 1 -		Volume	60mL	120m	ıL	60m1				<u> </u>					
	SAMPLE ANALY	YSIS		See item (1) in Special Instructions	Semi-VO 8270A (T		6 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1									
Sample No.	Matrix *	Sample Date	Sample Time					14 ON					1420		。 数 毛标识	10 V
JOONLO	SOIL	5.13.0	3 0900	×	x											
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CHAIN OF POSSESSI		Sign/Print Received By/Stor		ate/Time /4_3		PECL	AL INSTE	RUCTIO	ONS							Matrix *
Relinquished By/Removed From	Date/Time 1431	1773	728 5.1	3 · 03	(Metals - 60 y - 7471 - (C		lient L	ist) (Arsenic,	Barium, C	admiun	n, Chromium	, Lead, Seleniu	ım, Silver};	S=Soil SE=Sediment SO=Solid
Relinquished By/Removed From	51603)) 00	Received By/Stor	JHL 5160	ate/Time つう ロビ	0											Si=Sludge W = Water O=Oil
Relinquished By/Removed From	Date/Time 1603 1100	Received By/Stor	eddin D	ate/Time												A=Air DS=Drum Solids DL=Drum Liquids
Relinquished By/Removed From	Date/Time			ate/Time	_											T=Tistee Wl=Wipe
Relinquished By/Removed From Date/Time Received By/Stored In Date/Time Relinquished By/Removed From Date/Time Received By/Stored In Date/Time							rsonnel no									V=Vegetation X=Other
Relinquished By/Removed From Date/Time Received By/Stored In					\dashv	Re	linguish sa ef # 3A	on <u>5</u>	/ <u>/ (</u>	the 3728						
LABORATORY Received By				Titl	<u> </u> e									Di	ate/Time	<u> </u>
<u> </u>								osed By						D	ate/Time	
<u> </u>												-				

Bechtel Hanford Inc.	CHA	IN OF CUST	ODY/S	<u>AMPL</u>	E ANALY	<u> </u>	RI	EQUEST	<u>'</u>	B03	3-015-98	Page 1	of <u>l</u>
Collector Fahlberg	Company M Stani		Telephor 531-76					oiect Coordin SSNER, JH	ator P	rice Code	8B		maround
Project Designation Remaining Sites Confirmation Sampling-Soil	Sampling 600-139						,	F No. 3-015	A	ir Quality		7 I	ays
Ice Chest No. ERC 96 039	Field Log EL1577			COA C17HXU	U671C			thod of Ships Fed EX	nent				
Shipped To	Offsite Pr	operty No. Ac	302	231	·	<u></u>	Bi	ll of Lading/	Air Bill No	SEE	057	ر	
POSSIBLE SAMPLE HAZARDS/REMARKS					}		į	/		}		1)
Non-Rad Area, No Activity Report Required		Preservation	None	Cool 4C		Cool		Cool 4C	Cool 4C				
Special Handling and/or Storage] 7	Type of Container	aG	aG	aG	aG	4	aG	aG	 			
Cool 4°C	7	lo. of Container(s)	1	l i	1	1	1_	1	1	<u> </u>			
		Volume	60mL	240mL	. 120mL	60m	7	120mL	120mL				
SAMPLE ANALYSIS			See item (1) in Special Instructions.	PCBs - 808 Pesticides 8081; Chlor Herbicides EPA8151	- 8270A (TCL)	2/20	() () () () () () () () () () () () () (Suifides - 9030	Total Cyanide - 901				
Sample No. Matrix * Sam	ple Date	Sample Time	1.46.28			5. J 🐧	d.Fi	2,000	e e	1 760 25	3 8 1 2	100	1 200 300
J00NK7 SOIL 5 -	13.03	0920		<u> </u>	<u>X</u>	4		X	Х	<u>. </u>	ļ	ļ	
JOONK8 SOIL S .	3-03	0920	×	×	×_	-	_	-×	<u> </u>	 -	 	 -	
				 -	- 	 				 -		 	
		 		 					 -	 		 	
CHAIN OF POSSESSION S	ign/Print Na				ECIAL INSTR	UCTIO	ONS						Matrix *
Relinquished By/Removed From Date/Time /43. Received From S - 13 - 03 3	ed By/Stored I		te/Time 14 3 · o 3	j (1)) ICP Metals - 601 ercury - 7471 - (CV		lient l	List) (Arsenic, F	Barium, Cadı	nium, Chromiu	n, Lead, Seleni	um, Silver);	S=Soil SE=Sediment
Relignuished By/Kemoved From Date/Time Receiv	ed By/Stored I	²¹ . A L /	te/Time	100	o,em.) - ,471 - (0 ·	•,							SO=Solid SI=Sludge W = Water O=Oil
Relinquished By/Removed From Date/Time Receiv	ed By/Stored I		te/Time										A=Air DS=Drum Solids DL=Drum Liquids
Relinquished By/Removed From Date/Time Receiv			1e/Time 7-03_115	\supseteq	D								T=Tissuc Wi=Wipe L=Liquid
Relinquished By/Removed From Date/Time Received	n Da	te/Time		Personne relinquis Ref#	h samp	vaila oles	able to from the 372 _/ <u>/ 6</u> /_0	8				L=Liquid V=Vegetation X=Other	
Relinquished By/Removed From Date/Time Receiv	n Da	te/Time		Net #	<u>#7</u> 011 _	_2	<u> </u>	2					
LABORATORY Received By SECTION		Ti	le				- <u></u> -			Γ	ate/Time		
FINAL SAMPLE Disposal Method DISPOSITION				Dispos	sed By				· · · · · · · · · · · · · · · · · · ·	1	Date/Time		

Bechtel	Hanfor	d Inc.		CHA	IN OF CUST	CODY/S	AMPL	E A	NAL	YSIS	SR	EQUES	<u>r </u>	B03	-015-103	Page 1	of 1
Collector Doug Bowers					Contact nkovich	Telepho 372-9						oject Coord SSNER, JH	inator	Price Code	8B		rnaround
Project Designation Remaining Sites C		n Sampling-Soil	_		ocation oil dump area	 _					,	F No. 3-015	A	Lir Quality		- / <u>1</u>	Days
Ice Chest No. El	20 9	9 055		i Logb L-1578	ook No.		COA C17HX	U671C	:			ethod of Shir Fed Ex			·		
Shipped To TMARECRA		:	Offs	ite Pro	perty No.	030	23.2	2			Bi	ill of Lading	/Air Bill No	SEE	-osj	ے ج	
POSSIBLE SAMP	LE HAZA	RDS/REMARKS			Preservation	None	Cool 4C	:	Cool 4C	/		}				<u> </u>	
Special Handling	and/or S	torage		Ty	ype of Container	aG	aG	1	aG								
:	, ,			No	o. of Container(s)	60mL	1 120mL	-	60ml			 		 			
					Volume	See item (1) in Special Instructions.	\$270A (TC	CL)	A - 250/ (TQL)	JA							
Sample No	0.	Matrix *	Sample Dat	<u> </u>	Sample Time	がおいい			7	12	1 (196	i, ka	4:4	2 3 34 3			
J00NP0		SOIL	5-14-0	3	0830	X	X	\pm	<i>X</i>	17							
<u> </u>								+		┼─		 	-				
<u></u>																	
CHAIN OF PO			Sign/Pri			· m:- · l	SP	ECLAI	LINST	RUCTI	ONS			-			Matrix *
Relinguished By/Remove	ed From	Date/Time	Received By/S Received By/S SUC/ACE	4 3	728 5-14	ate/Time	Me	егсигу -	7471 - (CV)				mium, Chromiu	ı		S=Soil SE=Sediment SO=Solid SI~Skudge
Relinquished By/Renove SSGALEY J.					Da	ite/Time	<u>.</u>	D	0	noi	t a	us e	ron	Q.A.	/ Q.C.		W = Water O=ON A=Air DS=Drum Solids DL=Drum Liquids
Relinquished By/Removed From Date/Time Received				Bri	W 5.17.0	se/Time B 155		Person	nel not	availab.	مروا						T=Tissue WI=Wipe L=Liquid V=Vegctation
Relinquished By/Removed From Date/Time Receive				ndred In		ite/Time	r	elinqu Ref# _	ish sam	ples fro	om th	e 3728 _/ <u>& '3</u>					X=Other
Relinquished By/Removed From Date/Time Received				tored In	Da	te/Time	[_			· <u></u> /		_/ <u>O_}</u>					
LABORATORY SECTION	Received By					Tit	tle								D	ate/Time	
FINAL SAMPLE DISPOSITION	Disposal Mo	thod							Disp	osed By					r	Pate/Time	

Bechtel	Hanfor	d Inc.				CH	ΑI	N O	F CU	JST	ODY/S	AM	PLE	ANAL	YSIS	R	EQUES 1	Γ	ВО	3-015-102	Page 1	of 1
Collector Doug Bowers						_		ntac kovic			Telepho 372-9						roiect Coordi ESSNER, JH	nator	Price Code	8B		rnaround
Project Designation Remaining Sites C	onfirmatio	n Sampling-Soil						catio il dun	on np area								AF No. 03-015		Air Qualit	у 🗆	7 I	Days
Ice Chest No.	C 99	9 055				l d L o L-15		ok No	0.	_		C0 C17	A HXU6	71C		1	lethod of Ship Fed Ex					
Shipped To- TMA/RECRA					on	site l	Ргор	ertv l	No.	Ā	930	2-	3Z			В	ill of Lading/	Air Bill N	°5€€	OPC		
POSSIBLE SAMP	LE HAZA	RDS/REMARKS				\top								[1.				Ī	
							ı	Prese	rvation		None	Co	ol 4C	Cool 4C	Cool	I4C	400		}		ļ	j j
							Туг	e of	Contair	cr 	aG	1	aG	aG	aC	3	26		<u> </u>			
Special Handling	and/or S	torage				ľ	No.	of Co	ontaine	(s)	1		1	1	1		1		 -			
								Vo	lume		60mL	25	0mL	120mL	60n	nĹ	10 m		<u> </u>			†
				s							See item (1) in Special Instructions.	Pesti 8081; Herb EV	- 8082; icider - Chloro- icides - A815)	Semi-VOA - 8270A (TCL			(+++++) (+++++) (+18.)					
Sample No).	Matrix *	_	Sam	ple Da	Date Sample Time								* # 4	伊山		Art II				elese.	
J00NN7		SOIL.	5	-14	1-0	0900				×		Ж	X									
300NN8		SOIL	5	<u>~7</u>	7-	ره		٥	400		У	\	Υ	χ	<u> </u>							
JOONNO		- SOIL -				_	-]		•		1	1			ŀ		1	}		}	1]
10407	14.03						7															
							7		· · · · · · · · · · · · · · · · · · ·						T							
CHAIN OF PO				s	ign/P	rint l	Varia	5					SPEC	IAL INST	RUCTI	ONS	S					Matrix *
Relinquished By/Remove Relinquished By/Remove	- Bom	Date/Time Date/Time	D	Receiv	ed By/S	3 A	3	1	8 5-	4-	ete/Time	0	(1) IC Mercu	CP Metals - 6 ary - 7471 - (010TR (C CV)	lient	t List) (Arsenic, 1	Barium, Cad	mium, Chromi	um, Lead, Seleni	um, Silver};	S=Soll SE=Sodiment SO=Solid S1=Sludge
REF 3A 3 Relinquished By/Remove 7 104 LC 11	728	51603 11 00 Date/Time	_	Receiv	(A) (ed By/:	Stored		<u> </u>			07 //0 ate/Time	<u>v</u>										W = Water O=Otl A=Air DS=Drum Solids DL-Drum Liquids
	celinquished By/Removed From Date/Time Received By/Stared In					· 5	۱7	ate/Time りろいろ		Per	sonnel not	availab	le to	o					T=Tissue WI=Wipe L=Liquid V=Vegetation			
Relinquished By/Removed From Date/Time Received By/Stored In					D	ate/Time		reli	nquish sar	nples fro	om t	the 3728					X=Other					
Relinquished By/Removed From Date/Time Received By/Stored In					D	ate/Time		Re	1# <u>587</u> 0	"	د_د ر											
LABORATORY Received By SECTION						Ti	ile								Ε	Pate/Time	•					
FINAL SAMPLE DISPOSITION	Disposal M	ethod												Disj	osed By					I	Date/Time	

Bechtel		HA	IN OF CUST	ODY/S.	AMP	LE	ANALY	YS	IS I	REQ	UEST	`	B03	3-015-99	Page 1	of <u>l</u>			
Collector Fahlberg			Com		Contact	Telephor 531-76	ne No.				1	Project	Coordin ER, JH	ator	rice Code	8B		rnaround]	1
Project Designation Remaining Sites Co	onfirmation	Sampling-Soil		pling I 10-139	ocation							SAF No B03-01		A	ir Quality		7 I	Days	
Ice Chest No.	C 9	6039		Logb L1577	ook No.		COA C17H		IC		ľ	Method Fed I	of Ship	ment					
Shipped ToTMA(RECRA)		:	Offs	ite Pro	perty No. AC	302	31		, -			Bili of	Lading/	Air Bill No	520	03/	2	 -	
POSSIBLE SAMPI	LE HAZA	RDS/REMARKS						ĺ				Á	1		ĺ	1	· ·	{	-
Non-Rad Area, No A	activity Rep	ort Required			Preservation	None	Cool		Cool 4C	Ľ	Cool 4C	1	Cool 4C	Cool 4C	Cool 4C	ļ	· 	<u> </u>	_
Special Handling	and/or S	torage		T	ype of Container	aG	aG		aG		aG ——	41_	aG	aG	aG		 	ļ <u>-</u>	4
		184		No	o. of Container(s)	1	1 RINE 2400	وإعداد	1 3	L	1 60mI	-	60mL	1 120mL	1 120mL	 			\dashv
				1_	Volume	60mL	250~	<u>. (</u>		_						<u></u>			
	SAMPLE ANALYSIS Sample No. Matrix * S					See item (1) in Special Instructions.	PCBs - 6 Pesticid 8081; Ct Herbicid EPA8	des hioro- des -	Semi-VOA - 8270A (TCL)		A - 816 (TCL)		l (Total) - 418. i	Sulfides - 9030	Total Cyanide - 9010				
Sample No	Sample No. Matrix *				Sample Time						(E)		n te		24.5		8-1-712	140 544 1	
JOONK9		SOIL	5-150	<u> </u>	1200	X	X		X	Ц	<u> </u>		<u>X_</u>	X	<u>×</u>	ļ		 	-
			'		<u> </u>		ļ. —			Н					ļ	 	 	 -	4
					 		 			 -		+			<u> </u>	 			1
										Ľ		工							1
CHAIN OF PO)SSESSIO	N	Sign/Pr					PEC	AL INSTR	UC	OIT:	NS						Matrix *	1
Relinquished By/Remove	This		1373	_ >	728 5-15	te/Time 15 =			P Metals - 601 ry - 7471 - (C		R (Clie	nt List)	(Arsenic, I	Barium, Cadn	nium, Chromiu	m, Lead, Seleni	um, Silver};	S=Sall SE=Sadimen SO=Solid	
Relinquished By/Remove	d From 3728	Date/Time 51603 110	Received By/S	E 1	Sol- 5160	3 10	0			-								SI=Sludge W = Water O=Oil	
Relinquished By/Remove	ed From	Date/Time 5 (603 1/0)	Received By/S	tored In	Da	te/Time												A=Air DS=Drum Solids DL=Drum Liquids	, l
Refinquished By/Removed From Date/Time Received By/Stored In					· <u> </u>	te/Time 33 1155	\neg											T=Tissue W!=Wipe L=Liquid V=Vegetation	1
Relinquished By/Removed From Date/Time Received By/Stored In					Da	te/Time		ге	rsonnel not linquish sar	mol	es fro	m the	3728					V=Vegetation X=Other	
Relinquished By/Removed From Date/Time Received By/Stored In				Da	ite/Time		Re	ef# <u>34</u> 0	n _	5_/	16	<u>03</u>				_	}		
LABORATORY Received By SECTION					Tit	tle								·	Γ	ate/Time	, _	7	
	INAL SAMPLE Disposal Method								Dispo	sed	Ву		•			i	Date/Time		7

Bechtel H	anford Inc.	CI	HAI	OF CUST	ODY/S	AMPL	E.	ANALY	SIS	R	EQUEST		B03	3-015-102	Page 1	of 1
Collector Doug Bowers		Compa		ntact	Telepho 372-9	ne No.				Pr	roiect Coordina ESSNER, JH	itor F	rice Code	8B		naroun@O
Project Designation Remaining Sites Con	firmation Sampling-Soil	Sampl 600		cation i dump area							AF No. 03-015	A	ir Quality	y 🗆	/ L	ays
Ice Chest No.	C 99 055	Field I EL-	Logboo 1578	ok No.		COA C17HX	U67	IC			lethod of Shipm Fed Ex					
Shipped To TM (/RECRA		Offsite	e Prop	ertv No. A-C	30	25	Z_			В	Bill of Lading/A	ir Bill No	° 568	-03P		
POSSIBLE SAMPLE	HAZARDS/REMARKS				ĺ	1 .										
] ,	Preservation	Nonc	Cool 40	С	Cool 4C	Cool	4C	4°C					
	. 1/ 0		Тур	oe of Container	aG	aG		aG	a C	3	a6-			<u> </u>		
Special Handling a	nd/or Storage		No.	of Container(s)	1	Î		1	1)					
				Volume	60mL	250ml	-	120mL	60n	nĹ	60m1					
	SAMPLE ANAL	YSIS	1		See item (1) ir Special Instructions.	PCBs - 80 Pesticide: 8081; Chik Herbicide EPA815	oro-	Semi-VOA - 8270A (TCL)	VOA - 8 (TC		^ TPH + o + o 418.					
Sample No.	Matrix *	Sample Date		Sample Time	14.								1		1	
JOONNY X 19	SOIL								<u> </u>							
	SOIL				<u> </u>											
J00NN9	SOIL	5-17-0	2/	1300	<u> </u>	$\perp x$	4	χ	<u> </u>		+X				<u> </u>	
					-		-		 				+	<u> </u>	ļ	
				<u> </u>	<u> </u>	1 .					20	•••			ļ	Matrix *
CHAIN OF POSSESSION Relinquished By/Removed From Date/Time Received By/Stored In Relinquished By/Removed From Date/Time Received By/Stored In Sylvanian Date/Time Received By/Stored In Sylvanian Date/Time Received By/Stored In Sylvanian Date/Time Received By/Stored In Sylvanian Date/Time Received By/Stored In Relinquished By/Removed From Date/Time Received By/Stored In Relinquished By/Removed From Date/Time Received By/Stored In Relinquished By/Removed From Date/Time Received By/Stored In Relinquished By/Removed From Date/Time Received By/Stored In Received By/Store						4.3	1) IC Silver) Pe	ersonnel no	10TR (C 471 - (C	Clien CV)	n List) (Arsenic, E	darium, Cac	dmium, Chromi		Date/Time	S=Soil SE=Sediment SO=Solid SI=Sludge W = Water O=Oil A=Air DS=Drunn Solids DL=Drunn Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other
SECTION FINAL SAMPLE D	Disposal Method		Disposed By Date/Fi									Date/Time				
DISPOSITION		<u>.</u>														

LIONVILLE LABORATORY INCORPORATED SAMPLE RECEIPT CHECKLIST

LIENT:

TNU Hanford

urchase Order/Project:

DATE:

5.17.03.

AF# SOW# / Release #:

B03-015

.aboratory SDG #:

13056432 OTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION Custody seals on coolers or shipping D No DNA ☐ see Comment # container intact, signed and dated? 2. Outside of coolers or shipping containers are D Yes DNo D N/A ☐ see Comment # free from damage? Airbill # recorded? D No DNA ☐ see Comment # 4. All expected paperwork received (coc and □ No D N/A ☐ see Comment # other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid) Sample containers are intact? 🕽 Yes □ No D N/A ☐ see Comment # Custody seals on sample containers intact, D No. DNA ☐ see Comment # signed and dated? All samples on coc received? ∕Ó Yes D No DNA 🖸 see Comment # . □ see Comment # ₩ Yes D N/A D No All sample label information matches coc? Laboratory QC samples designated on coc? □ Yes \square No **NOON**A D see Comment # (QC stickers placed on bottles?) 10. Shipment meets LvLl Sample Acceptance D No D N/A . 🗖 see Comment # Policy? (identify all bottles not within policy. See reverse side for policy) 11. Where applicable, bar code labels are D Yes 25-N/A D No □ sec Comment # affixed to coc? DY es See Comment # D No D N/A 12. coc signed and dated? 13. coc will be faxed or emailed to client? Yes D No D N/A D see Comment # 14. Project Manager/Client contacted E N/A □ Yes D No ☐ see Comment # concerning discrepancies? (name/date)

Cooler # / temp (°C) and Comments:

Elc 99055/0.8°

ERC 96039/0,3°C

Laboratory Sample Custodian:

Laboratory Project Manager:

Witing Q

Lionville Laboratory, Inc. HBGX ANALYTICAL DATA PACKAGE FOR TNUHANFORD B03-015 H2222

PREP #

03LE0600

03LE0600

03LE0600

03LE0600

03LE0625

DATE RECEIVED: 05/17/03

LVL #

002

003

007

003 MS

003 MSD

LVL LOT # :0305(48) COLLECTION EXTR/PREP ANALYSIS 05/21/03 05/24/03 05/13/03 05/13/03 05/21/03 05/24/03 05/21/03 05/24/03 05/13/03 05/24/03 05/13/03 05/21/03 05/25/03 05/27/03 05/15/03

LAB Q	C:
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CLIENT ID

J00NK7

J00NK8

JOONK8

JOONK8

JOONK9

-						
				/-		07 (00 (00
PBLKUL	MB1	S	03LE0600	N/A	05/21/03	05/23/03
PBLKUL	MB1 BS	S	03LE0600	N/A	05/21/03	05/27/03
PBLKUM	MB1	s	03LE0625	N/A	05/25/03	05/27/03
PBLKUM	MB1 BS	S	03LE0625	N/A	05/25/03	05/27/03
PBLKUM	MB1 BSD	S	03LE0625	N/A	05/25/03	05/27/03

MTX

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Ans/21/2



Analytical Report

W.O.#: 11343-606-001-9999-00

Date Received: 05-17-03

Client: TNU HANFORD B03-015 LVL#: 0305L432

SDG/SAF#: H2222/B03-015

HERBICIDE

The set of samples consisted of three (3) soil samples collected on 05-13,15-03.

The samples and their associated QC samples were extracted on 05-21,25-03 and analyzed according to Lionville Laboratory OPs based on SW846, 3rd Edition procedures on 05-23,24,27-03. The extraction and analysis procedure was based on method 8151A.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

- 1. All results presented in this report are derived from samples that met LVLI's sample acceptance policy.
- 2. All required holding times for extraction and analysis have been met.
- 3. All method blanks were below the reporting limits for all target compounds.
- 4. All obtainable surrogate recoveries were within acceptance criteria.
- 5. Five (5) of twenty-four (24) blank spike recoveries were outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
- Matrix spike recoveries were unobtainable due to the dilution required for analysis.
- 7. All samples required 50-fold instrument dilutions due the high concentrations of non-target analytes. Reporting limits have been adjusted to reflect the necessary dilutions.
- 8. All initial calibrations associated with this data set were within acceptance criteria.
- 9. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
- 10. To the best of my knowledge, this data report is in compliance with the terms and conditions of the purchase order, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hard copy data package and in the electronic data submitted on diskette has been authorized by the cognizant laboratory manager or his/her designee to be accurate as verified by the following signature.

Iain Daniels

Laboratory Manager

Lionville Laboratory Incorporated

pef\7somr:\group\data\herb\\tnu\05L-432.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of pages.

Lionville Laboratory Sample Discrepancy Report (SDR) SDR #: @@c.i	53
Initiator: hype Southwo Batch: 03052 431, 432, 450 Parameter: CHAGY Date: 512103 Samples: 85 Matrix: So, 1 Client: Du Method: SWB46MCAWW/CLP/ Prep Batch: 634 E040	
1. Reason for SDR a. COC Discrepancy Tech Profile Error Client Request Sampler Error on C-O-C Transcription Error Wrong Test Code Other Other	_
2. Known or Probable Causes(s)	
3. Discussion and Proposed Action Re-log Entire Batch Following Samples: Re-leach Re-extract Re-digest Revise EDD Change Test Code to Place On/Take Off Hold (circle) Other Description: Other Description: Auxilian Other Description:	
4. Project Manager Instructionssignature/date: Concur with Proposed Action Disagree with Proposed Action; See Instruction Include in Case Narrative Client Contacted: Date/Person Add Cancel	
5. Final Actionsignature/date: 5003 Other Explanation: Verified re-[log][leach][extract][digest][analysis] (circle) Verified re-[log][leach][extract][digest][analysis] (circle) Hard Copy COC Revised Electronic COC Revised EDD Corrections Completed When Final Action has been recorded, forward original to QA Specialist for distribution and filing.	
Route Distribution of Completed SDR X Initiator X Lab General Manager: M. Taylor X Project Mgr: Stone/Joinson/Plaslett X Technical Mgr: Wesson/Daniels X QA (file) Data Management: Feldman Sample Prep: Beegle/Kiger Distribution of Completed SDR Metals: Beegle Inorganic: Perrone GC/LC: Kiger MS: Rychlak/Layman Log-in: Melnic Admin: Soos Other:	

Lionville Laboratory Sample Discrepancy Report (SDR) SDR #: 0560155	
Initiator: Surface Batch: 03057432 (w7 orly) Parameter: 04/464 Date: 5/11/03 Samples: 85 550 Matrix: Soi Prep Batch: 03/46025	
1. Reason for SDR a. COC Discrepancy Tech Profile Error Client Request Sampler Error on C-O-C Transcription Error Wrong Test Code Other	
b. General Discrepancy Missing Sample/Extract	t
c. Problem (Include all relevant specific results; attach data if necessary) (1) Low spike recoveries in 65 and 650 (see extrached). Sample is clear.	
2. Known or Probable Causes(s)	
3. Discussion and Proposed Action Re-log Entire Batch Following Samples: Re-leach Re-extract Re-digest Revise EDD Change Test Code to Place On/Take Off Hold (circle) Other Description: Jonator Jonator	****
4. Project Manager Instructionssignature/date: // // // // // // // // // // // // //	
5. Final Actionsignature/date: Other Explanation: Verified re-[log][leach][extract][digest][analysis] (circle) Included in Case Narrative Hard Copy COC Revised Electronic COC Revised EDD Corrections Completed	
When Final Action has been recorded, forward original to QA Specialist for distribution and filing.	
Route Distribution of Completed SDR X Initiator X Lab General Manager: M. Taylor X Project Mgr: Stone/Johnson/Haslett X Technical Mgr: Wesson/Daniels X QA (file) Data Management: Feldman Sample Prep: Beegle/Kiger Distribution of Completed SDR Metals: Beegle Inorganic: Perrone GC/LC: Kiger MS: Rychlak/Layman Log-in: Melnic Admin: Soos Other:	



GLOSSARY OF HERBICIDE DATA

DATA QUALIFIERS

- U = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
- J = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
- E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- I = Interference.

ABBREVIATIONS

- BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD = Indicates blank spike duplicate.
- MS = Indicates matrix spike.
- MSD = Indicates matrix spike duplicate.
- DL = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
- NA = Not Applicable.
- DF = Dilution Factor.
- NR = Not Required.
- SP = Indicates Spiked Compound.



GLOSSARY OF HERBICIDE DATA

- P = This flag is used for an Herbicide target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form 1 and flagged with a "P".
- D = This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- C = This flag applies to a compound that has been confirmed by HPLC.

Herbicides, Special List

JOONK8

RFW Batch Number: 0305L432 Client: TNUHANFORD B03-015 H2222 Work Order: 11343606001 Page: 1

Cust ID:

JOONK7

JOONK8

Sample Information	RFW#: Matrix: D.F.: Units:	002 SOIL 50. ug/k	0	003 SOIL 50. ug/k	0	003 M SOIL 50 ug/l	.0	003 MS SOIL 50 ug/	.0	007 SOIL 50. ug/k	0	03LE0600-1 SOIL 1.0 ug/l	00
Surrogate:	DCAA	מ		D	% _£1.	D		D	% ==f1=	D	% :=f1	48	
Dalapon			U		-41								
Dalapon			U	9400	U	D	ક્ષ	D	ક	8800	U	170	U
Dicamba			U	3800	U	D	ક	D	*	3500	U	67	U
Dichloroprop			U	9400	U	D	ક	D	૪	8800	U	170	U
2,4-D			U	1900	U	D	ક	D	*	1800	Ü	33	U
2,4,5-TP (Silvex)		930	U	940	U	D	용	D	*	880	U	17	U
2,4,5-T			บ	940	U	D	ક	D	왐	880	U	17	Ū
2,4-DB		9300	U	9400	U	D	ક	D	૪	8800	U	170	U
Dinoseb		930	Ū	940	U	D	용	D	*	880	Ü	17	U
								-					
		PBLKUL BS		PBLKUM		PBLKUM BS		PBLKUM BS					
Sample	RFW#:	03FE0600-F	Œ1	03LE0625-M	в1	03LE0625-	MB1	03LE0625-	MB1				
Sample Information	RFW#: Matrix:	03LE0600-1		03LE0625-M SOIL		03LE0625-	MB1	03LE0625- SOIL	MB1				
-	RFW#: Matrix: D.F.:	03LE0600-1 SOIL 1.0	00	03LE0625-M SOIL 1.0	0	03LE0625- SOIL 1.	MB1	03LE0625- SOIL	MB1	NI 100			
-	RFW#: Matrix:	03LE0600-1	00	03LE0625-M SOIL	0	03LE0625-	MB1	03LE0625- SOIL	MB1				
Information Surrogate:	RFW#: Matrix: D.F.: Units:	03LE0600-1 SOIL 1.0 ug/l	00 kg *	03LE0625-M SOIL 1.0 ug/k	% :a	03LE0625 - SOIL 1. ug/	MB1 00 kg	03LE0625- SOIL 1. ug/	MB1 00 kg				
Information	RFW#: Matrix: D.F.: Units:	03LE0600-1 SOIL 1.0 ug/l	00 kg *	03LE0625-M SOIL 1.0 ug/k	% :a	03LE0625 - SOIL 1. ug/	MB1 00 kg	03LE0625- SOIL 1. ug/	MB1 00 kg	=======================================	f]		f1
Information Surrogate:	RFW#: Matrix: D.F.: Units:	03LE0600-1 SOIL 1.0 ug/J	00 kg *	03LE0625-M SOIL 1.0 ug/k	0 :g % :=f1	03LE0625- SOIL 1. ug/	MB1 00 kg	03LE0625- SOIL 1. ug/	MB1 00 kg	=======================================	f]		fl
Information Surrogate: Dalapon	RFW#: Matrix: D.F.: Units:	03LE0600-1 SOIL 1.0 ug/l	00 kg * ==f1 %	03LE0625-M SOIL 1.0 ug/k	0 .g -% ==fl U	03LE0625- SOIL 1. ug/	00 kg *==fl	03LE0625- SOIL 1. ug/	00 kg ==fl	=======================================	f]	_========	fl
Surrogate: Dalapon Dicamba	RFW#: Matrix: D.F.: Units:	03LE0600-1 SOIL 1.0 ug/l	00 kg * ==f1 %	03LE0625-M SOIL 1.0 ug/k 102	0 3g % ==fl U U	03LE0625- SOIL 1. ug/	00 kg * ==fl * %	03LE0625- SOIL 1. ug/	00 kg ==fl * %	=======================================	f]		===f1
Surrogate: Dalapon Dicamba Dichloroprop 2,4-D	RFW#: Matrix: D.F.: Units: DCAA	108 108 108 108 108 108	00 kg % ==fl %	03LE0625-M SOIL 1.0 ug/k 102	% ==f1 U U	03LE0625- SOIL 1. ug/	00 kg ==fl	03LE0625- SOIL 1. ug/ 87 	% % % %	========	f]	=======	f1
Surrogate: Dalapon Dicamba Dichloroprop 2,4-D	RFW#: Matrix: D.F.: Units: DCAA	108 108 108 108 108 108	00 kg ==fl %	03LE0625-M SOIL 1.0 ug/k 102 ===================================	*=fl U U U	03LE0625 - SOIL 1. ug/ 149 	00 kg *==fl * %	03LE0625- SOIL 1. ug/ 87 	MB1 00 kg ==f1 * % * %	=========	f]		fl
Surrogate: Dalapon Dicamba Dichloroprop 2,4-D 2,4,5-TP (Silvex)	RFW#: Matrix: D.F.: Units:	108 	00 kg ==fl * %	03LE0625-M SOIL 1.0 ug/k 102 ===================================	* *=f1 U U U U	03LE0625 SOIL 1. ug/ 149	00 kg *==fl * %	03LE0625- SOIL 1. ug/ 87 	MB1 00 kg ==f1 * % * %	=======================================	f)	.======	-==f1
Surrogate: Dalapon Dicamba Dichloroprop 2,4-D 2,4,5-TP (Silvex) 2,4,5-T	RFW#: Matrix: D.F.: Units:	108 	00 kg ==fl * % %	03LE0625-M SOIL 1.0 ug/k 102 170 67 170 33 17	* ==fl U U U U U	03LE0625- SOIL 1. ug/ 149 	## % % % % % %	03LE0625- SOIL 1. ug/ 87 	MB1 000 kg ==f1 * % %	=======================================	f]		===f1

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Report Date: 05/29/03 09:58

PBLKUL

JOONK9

JOONK8

Lionville Labo	oratory (Jse Only	Custo	ody 1	Γran	sfe	er F	Rec	ord/	La	b \	No	rk	Re	qu	les	t Pa	.ge_1	01	<u> </u>			il	1	1
030	<u>514</u>	132		FIELD	PERS	ONNE	EL: C	OMPL	ETE OI	NLY S	SHAD	ED A	AREA A	s _G	ميد	0			D	E			UONVILL	LABORATO	PRYING
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Est. Final Pro	ol. Samı	pling Date						#/Tvne	Containe	, L	iquid														
Project #		1343-606	-١٥٥١	9999.	-00						Solid		199	las	4	lan			اعم	اعما		<u>lan</u>	704		
Project Cont	act/Pho	ne # Project Manag					-~	Volume	•	- -	iquid									<u> </u>	├ ─┤	}		-	
						ma	<u>~~</u>	Preser	vativas		Solid		190	3 29	4_	258	} }		<u>60</u>	190	 	120	<u></u>	-	╁
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Date Rec'd _	5.17	<u>B</u>	Date Due		24-0	3		ANALY REQUE		>	- !	VOA	BNA	Pest/ PCB	Herb	25			Metal	12. 12. 12.		Siffer	ā.		
MATRIX							trix						·	·	1		Lionvil	le Lat	orate	ory Us	e Only		1	- <u></u>	
CODES: S - Soil SE - Sediment SO - Solid	Lab (D	CI	ient ID/Desc	ription		Cho (+	MSD	Matrix	Date Collecte		ime lected	 - -	0625H	0668 T	OHBEN	ORB			MRCRATO	TCAMO		ISFD	12 46		
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X - Other F - Fish	000	1 .						1/_	1 1		<u></u>		X			X			<u>X</u>	ļ				 	<u> </u>
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									 4 5 6 										3) Co 4)	Receive andition Sample	nt or Chil red in Go or es Preserve	od N	Package 3) Prese 4) Unbro Sample	or int on Sa Octob oken on Octob	N ample r N N
Relinquished by	9	Received by	Date 5.17.€	Time	Re			SITE	Received by	ORI	1	1	Tin	ne	Sam COC NOT	ples La Recor ES:	es Betwe beis and d? Y or	(1)	5) Ho	Receive	or od Within	N n N	COC Re Upon Sa Cooler Temp.	0.3	ec't r N L °C
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Bechtel Hanfor	d Inc.	CI	HAIN OF CUST	ODY/S	<u>AMYI</u>	LE A	NAL	1010	ΙΔĿ	V UED 1	<u> </u>				
Collector Fahlberg			anv Contact stankovich	Telephor 531-76						ect Coordi SNER, JH	nator P	rice Code	8B		rnaround
Project Designation Remaining Sites Confirmation	n Sampling-Soil	_	ling Location -139						SAF B03		A	ir Quality		71	Days ————
Ice Chest No. ERC 9	6039		Logbook No. 1577		COA C17HX	(U671C			L .	od of Ship d EX	ment				
Shipped To TMA/RECRA		Offsite	e Property No.	302	23/			<u> </u>	Bill	of Ladine/	Air Bill No	Set	OSP (
POSSIBLE SAMPLE HAZAI	RDS/REMARKS							A			}	}	}	ļ	
Non-Rad Area, No Activity Rep	ort Required		Preservation	None	Cool 40	c c	001 4C		- }			}			
Special Handling and/or St	tarzoe		Type of Container	aG	aG		aG								
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	SAMPLE ANALY	sis		See item (1) in Special Instructions.	Semi-VO/ 8270A (To	VO.	TTO M								
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CHAIN OF POSSESSIO	N	Sign/Prin	t Names		SP	PECIAL	INST	RUCTIO			-				Matrix *
Relinquished By/Removed From R. F. 616	Date/Time 1431	Received By/Sto		14-73 · 03	(1				lient Li	st) (Arsenic,	Barium, Cadr	nium, Chromiu	n, Lead, Selen	ium, Silver};	S=Soft SE=Softment SO=Solid
Relinquished By/Removed From	51603 1100	Received By/Sto	10Hd_ 5160		00	•	eury - 7471 - (CV)								Si=Sludge W = Water O=Oil
Relinquished By/Removed From	Date/Time 603 1100	Received By/Sto	red ^M n Da	ate/Time											A=Air DS=Drum Solids DL=Drum Liquids
Relinquished By/Removed From	Date/Time	Received By Sre	red In Da	ite/Time											T=Tissue Wi=Wipe
	17.03 1155			SIC/Ime		Ders	annel n	ot avails	shla tr						L=Liquid V=Vegetation
Relinquished By/Removed From	Date/Time	Received By/Sto	fred In	NG I HIVE	- }	relin	auish s	amples i	available to ples from the 3728						X=Other
Relinquished By/Removed From	Date/Time	Received By/Sto	eceived By/Stored in Date/Time Ref # 3A on 5 /16. 103												
LABORATORY Received By SECTION		Title							ī	Date/Time					
FINAL SAMPLE Disposal Months DISPOSITION	 .					Disp	osed By						Date/Time		

Bechtel Hanfo	ord Inc.	C	HAI	N OF CUST	ODY/S	AMPI	LE ANA	LY	SIS	RI	EQUEST	<u>'</u>	B03	3-015-98	Lafe T	or T
Collector Fahlberg			Dany Co Stankov		Telephon 531-76						oiect Coordii SSNER, JH	nator P	rice Code	8B	Data Tu	· ·
Project Designation Remaining Sites Confirmati	on Sampling-Soil	II.	oling Lo 0-139	ocation		<u>-</u>					F No. 3-015	A	ir Quality		7 D	ays
Ice Chest No. ERC	96 039		Logboo	ok No.		COA C17HX	(U671C				thod of Ship Fed EX	ment				
Shipped To TM_(/RECRA)	<u>:</u>	Offsi	te Prop	erty No. Ac	302	231	<u>:</u>			Bil	ll of Lading/	Air Bill No	SEE	057) <u>(</u>	
POSSIBLE SAMPLE HAZ	ARDS/REMARKS				}	}	- }	ŀ		- 1	N .		}	Į		
Non-Rad Area, No Activity R	eport Required		F	Preservation	None	Cool 40			Coo		Cool 4C	Cool 4C	<u> </u>			
Special Handling and/or	Storage		Тур	e of Container	aG	aG l	aG		a(aG	#G	 		 	
	1400		No.	of Container(s)	1	<u> </u>	_			1	<u>'</u>	'	<u> </u>	<u> </u>		
	. , -			Volume	60mL	240mL	L t20n	工	601	nil -	120mL	t 20mL				
	SAMPLE ANALY	rsis			See item (1) in Special Instructions	PCBs - 80 Pesticides 8081; Chk Herbicides EPA815	s - 8270A (oro- ≅ -	TCL)	V	\$60A	Sulfides - 9030	Total Cyanide - 9010	p			
Sample No.	Matrix *	Sample Date	:]	Sample Time	11 OF					25						
JOONK7	SOIL	5-13-0	23	0920	<u> </u>	x	<u> </u>		1		X	Х	<u> </u>	L	<u> </u>	
JOONK8	SOIL	5.13-0	23	0920	×	×			_		_×	<u>x</u>	 	<u> </u>		ļ
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CHAIN OF POSSESSI		Sign/Pri					PECIAL IN	STR	UCTI	ONS						Matrix *
Relinquished By/Removed From K + 600 R + 641		3A	372	8 5.1	te/Time 14	{ (1	l) ICP Metal Mercury - 747			Client I	List) (Arsenic, i	Barium, Cadn	nium, Chromius	n, Lead, Seleni	um, Silver);	S=Soil SE=Sediment SO=Solid
Relinquished By/Removed From BFF 3A 3728	51603 1100	Received By/St	ored in	4 L /	03	100										SI=Studge W = Water O=Oil
Relinquished By/Removed From		Received By/St	ored in	Da 💢	te/Time											A=Air DS=Drum Solids DL=Drum Liquids
Relinquished By/Removed From	Date/Time 5-17-03 1155	D			16/Time 1-03 115	5	Per	Sonne	l not	avait	able to					T=Tissue WI=Wipe L=Liquid V=Vegeration
Relinquished By/Removed From	Date/Time	Received By/St	ored In	Da	te/Time		reli	nauisl	h sam	nles	from the 372	8 3				X=Other
Relinquished By/Removed From	Date/Time	Received By/St	ored In	Da	te/Time											
LABORATORY Received By SECTION					Tit	le								E	ate/Time	
FINAL SAMPLE Disposal DISPOSITION		<u> </u>					Dispos	ed By					1	Date/Time		

Bechtel Hanfo	rd Inc.	C :	HAIN OF CUST	CODY/SA	MPL	E ANALY	YSIS	REQU	<u>EST</u>	DU.)-U1J*1UJ	1	
Collector Doug Bowers			any Contact ce Stankovich	Telephone 372-90				Project C KESSNEI	oordinator R, JH	Price Code	8B		rnaround
Project Designation Remaining Sites Confirmation	n Sampling-Soil		ling Location 1-181 oil dump area					SAF No. B03-015		Air Quality	′ []	71)ays
Ice Chest No. ERC 9	9 055	1	Logbook No. 1578		COA C17HXU	1671C		Fed Ex					
Shipped To— TMA/RECRA		Offsit	e Property No.	030	23.2		<u> </u>	Bill of La	ding/Air Bil	1 No. 522	osj	20	·
POSSIBLE SAMPLE HAZA	RDS/REMARKS					1 /]				1	}	
			Preservation	None	Cool 4C	Cool 4C					 	ļ	<u></u>
0	*****		Type of Container	aG	aG	aG					<u> </u>		
Special Handling and/or S	torage		No. of Container(s)	1	1	1							
			Volume	60mL	120mL	60ml			}	_			
	SAMPLE ANAL	ysis		See item (1) in Special Instructions	Semi-VOA - 8270A (TCL								
Sample No.	Matrix *	Sample Date	Sample Time	(a), (3), (8)			10	()	\$		5 7 2 3		
JOONPO	SOIL	5-14-03	0830	Х	Χ	/X	5-				 	 _	
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CHAIN OF POSSESSIO		Sign/Prin		ate/Time /	— SPE	CIAL INSTR	UCTIC	INS		÷			j .
Relinquished By/Removed From D	rs 5-14-03/1/30	Ref 3A	3728 5-14	.03 ///}		ICP Metals - 601 rcury - 7471 - (C'		ient List) (A	rsenic, Barium,	Cadinium, Chromiu	un, Lead, Seleni	ium, Silver};	S=Soit SE=Sediment SO=Solid
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Relinquished By/Removed From SSALENY S	Date/Time	Received By/Sto	red in Da	ate/Time	.]	001	,	٠, ر٠	1			•	A=Air DS=Drum Solids DL=Drum Liquids
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Relinquished By/Removed From	Date/Time	Received By/Sto	red In Da	ate/Time	re	ersonnel not a linquish samp ef # 3 on	vailable le <u>s</u> froi	e to 11 the 3728					V=Vegetation X=Other
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LABORATORY Received B	у	. L			Date/Time					!			
FINAL SAMPLE Disposal M DISPOSITION	lethod		·			Dispo	sed By				1	Date/Time	
	 												

Bechtel Ha	inford Inc.	C	HAIN OF CUST	CODY/S.	AMPLE	ANALY	<u>YSIS</u>	REQUEST		B03-	-015-102	Page 1	of 1
Collector Doug Bowers			any Contact te Stankovich	Telephor 372-90				Proiect Coordin KESSNER, JH	ator Pi	rice Code	8B	Data Tui	
Project Designation Remaining Sites Confir	mation Sampling-Soil		ling Location 0-181 oil dump area					SAF No. B03-015	Ai	ir Quality		7 D	ays
Ice Chest No. ERC	99 055		Logbook No. -1578		COA C17HXU6	71C		Method of Ships Fed Ex					
Shipped To TMA/RECRA		Offsic	e Property No.	030	2-32			Bill of Lading/A	Air Bill No.	5E	ospc		
POSSIBLE SAMPLE I	HAZARDS/REMARKS				Į.		1	1 1		}]		}
			Preservation	None	Cool 4C	Cool 4C	Cool						
Special Handling and	l/or Storage		Type of Container	aG	aG	aG	aG			ļ	<u> </u>		
	_		No. of Container(s)	1	1	1	1						
			Volume	60mL	250mL	120mL	60m	il fort					
	SAMPLE ANAL	YSIS		See item (1) in Special Instructions.	PCBs - 8082; Pesticided - 8081; Chloro- Herbisides - EFAS151	Semi-VOA - 8270A (TCL)	VOA - 8 (TCI						
Sample No.	Matrix *	Sample Date	Sample Time			2. (2) (2)						best of the	
J00NN7	SOIL	5-14-0	0900	×	X	X							
J00NN8	SOIL	5-14-0	3 0400	<u> </u>	L X	<u> </u>	<u> </u>			<u> </u>	<u> </u>		<u> </u>
TOOMING	30IL-				<u> </u>		<u> </u>			<u> </u>	<u> </u>		<u> </u>
10407-19	1.03												
				<u> </u>	<u> </u>	<u> </u>	<u></u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>	
CHAIN OF POSSI	ESSION	Sign/Prin			SPEC	CIAL INSTR	RUCTIO	DNS					Matrix *
Relinquished By/Removed Fro	om 0 049 Date/Time 3 0 4 6 7 7 - 14.03/1132	Received By/Sto	A 3728 5-14-	ate/Time		CP Metals - 60; ury - 7471 - (C		lient List) (Arsenic, E	Barium, Cadm	ium, Chromiun	n, Lead, Seleni	um, Silver};	S=Soil SE=Sediment
Relinquished By/Removed Fronce REF 3A 372	om Date/Time	Received By/Sto	oredin Ste 5/6	ate/time 607 /10		<i></i>	••						SO-Solid Si-Sludge W = Water O-Oil
Relinquished By/Removed Fig.	om 51603 1100		<u>~</u> X	ate/Time									A=Air DS=Drum Solids DL=Drum Liquids
Relinquished By/Removed Fro	om Date/Time 5 17.03 1155	Received By/Sy	Moder 517	ate/Time	Pe	rsonnel not a	availab!	le to					T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed Fr	ate/Time	rel	inquish sam	ples fro	om the 3728 1/6/03					X=Other			
Relinquished By/Removed From Date/Time Received By/Stored In						·· # <u>=£ </u> ""							
LABORATORY Received By SECTION					tle	-					Ī	ate/Time	
	posal Method					Dispo	sed By		٠.		1	Date/Time	,

Bechtel Han	ford Inc.	(CHA	IN OF CUST	ODY/S	AMP	LE.	ANALY	<u> </u>	IS R	EQUEST		B03	-015-99	Lake T	υι <u>τ</u>
Collector Fahlberg			ipany C I Stanko		Telephor 531-70						roiect Coordin ESSNER, JH	ator	Price Code	8B		rearound
Project Designation Remaining Sites Confirm	nation Sampling-Soil		oling L 00-139	ocation							AF No. 03-015	A	Lir Quality		7 E	Days
Ice Chest No. ERC	96 039		d Logb L1577	ook No.		COA C17HX	XU671	ıc		•	lethod of Ships Fed EX	nent				
Shipped To TMA(RECRA)	: .	Off	ite Pro	perty No. AO	302	31				В	ill of Lading/A	ir Bill N	. 5EE	03/	ے د	
POSSIBLE SAMPLE HA	AZARDS/REMARKS	-						l					ŀ			,
Non-Rad Area, No Activity	y Report Required		Preservation			Cool 4	4C	Cool 4C	C	Cool 4C	Cool 4C	Cool 4C	Cool 4C			
Special Handling and/o	or Storage		Ty	pe of Container	aG	aG		aG	_	aG	aG	aG	aG		<u> </u>	
	14 -		No	of Container(s)	1	RIN5				$\frac{1}{6}$	1 (0-1	1	1 120-7	 	 	
			Volume	60mL	240m 256 ~	- 1	120mL	 	60m1	60mL	120mL	120mL	ļ 			
	YSIS			See item (1) in Special Instructions.	PCBs - 84 Pesticide 8081; Chi Herbicide EPA81	es - nloro- les -	Semi-VOA - 8270A (TCL)		A - \$ 60, (TCL)	A TPH (Total) - 418.1	Sulfides - 90	Total Cynnide - 9010				
Sample No.	Matrix *	Sample Da	ie	Sample Time	543.6	13.7.5		Same of	73.	12%					102 (8.2)	
JOONK9	SOIL	5.15.0	>	1220	人	X		X			X	X	メ			
						 	_	· 	4	- ".						
				 		├ ─			#				- 	 	 	}
						 	-		⊬				 	 	 	 -
CHAIN OF POSSES	SSION	Sign/P	int Nar	nes		_ s	PECL	AL INSTR	υC	TION:	s		-, •,,		1,	Matrix *
Relinquished By/Removed From R-GOO K-F-I Relinquished By/Removed From K-F-3A-37 Relinquished By/Removed From	Date/Time 28 51603 110	Received By/	Stored in	201 5-15 Del 5160	te/Time 5:	`		⁹ Metals - 601 y - 7471 - (C ¹		R (Clien	t List) {Arsenic, F	arium, Cad	mium, Chromium	n, Lead, Seleni	iun, Silver};	S=Soil SE=Sediment SO=Soiid SI=Sludge W = Water O=Oil A=Alr
BIGALE NICH	-51603 1100	FED	<u>5</u> >		to (Time											DS=Drum Solids DL=Drum Liquids T=Tissue
Refinquished By/Removed From	Date/Time 5-17-03-1155	Received By	Stored in		11e/Time 13/15		D-									WI-Wipe L=Liquid V=Vegetation
Relinquished By/Removed From	Received By			te/Time	1	rel	rsonnel not	ומנו	es fron	n the 2710					X=Other	
Relinquished By/Removed From Date/Time Received By				Da	tc/Time		Re	1# <u>.2/7-</u> 0	n_	<u>_</u> _/_	16 103					
LABORATORY Receiv	red By				Ti	itie			_					I	Date/Time	
SECTION FINAL SAMPLE Disposal Method DISPOSITION							<u>-</u> _	Dispo	sed l	Ву			·	1	Date/Time	

Bechtel Hanford Inc.	CH	AIN OF CUST	ODY/S	AMPLE	ANAL	<u>YSIS</u>	REQUEST	В	03-015-102	Page 1	of 1
Collector Doug Bowers	Company Mike S	Contact Stankovich	Telephon 372-90				Project Coordinator KESSNER, JH	Price Code	· 8B	Data Tur	Ĭ
Project Designation Remaining Sites Confirmation Sampling-Soil	L	Location 31 oil dump area					SAF No. B03-015	Air Qual	ity 🗌	7 U	ays
Ice Chest No. ERC 99 055	Field Los EL-15	ebook No. 78		COA C17HXU6	571C		Method of Shipmen Fed Ex	·			
Shipped To TM ORECRA	Offsite P	roperty No. AC	30	252			Bill of Lading/Air	Bill No. 56	ह कर	<u></u>	,
POSSIBLE SAMPLE HAZARDS/REMARKS	1		None	Coal 4C	Cool 4C	Cool	4C				1
		Preservation	None		<u> </u>	Ĺ	_ 7 -				
G '-1 W di d/au Caupana		Type of Container	aG	aG	aG	aC	a6-				
Special Handling and/or Storage		No. of Container(s)	i	1	1	1)				
		Volume	60mL	250mL	120mL	60n	160ml				
SAMPLE ANALYSIS	_		See item (1) in Special Instructions.	PCBs - 8082; Pesticides - 8081; Chloro- Herbicides - EPA8151	Semi-VOA - 8270A (TCL)	VOA - 8 (TC					
Sample No. Marrix * San	ple Date	Sample Time									
JOONNZ 4 1A SOIL											
100NN8 5-14-03 SOIL				<u> </u>		<u> </u>				 	
J00NN9 SOIL 5-	7-0	1 1300	X'	X_	χ		$-\mid X - \mid$				
<u> </u>		+							_		
CHAIN OF POSSESSION	Sign/Print N	Vames		SPE	CIAL INSTR	RUCTI	ONS	··			Matrix *
Relinquished By/Removed From Retinquished By/Removed From Rece	ved By/Stored Parties of By/Stored SALOW ived By/Stored	3728 5-19 10Del 5160	ate/Time 5 - 43 / 6 ate/Time	Silve	ICP Metals - 60 r); Mercury - 7	10TR (C 471 - (C	Client List) {Arsenic, Barit V)	ım, Cadmium, Chro	mium, Lead, Sele	:nium,	S=Soil SE=Sediment SO=Solid SI=Shadge W = Water O=Ot! A=Air DS=Drum Solids
Relinquished By/Removed From Date/Time Rece	ived By/Storec	11 5 7.	ate/Time		Personnel no relinquish sai	t availa	able to from the 3728 _/(_ _/ 6 _ /				DL-Druns Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From Date/Time Rece	ived By/Stored	iln D	ate/fime		Ket# <u>///</u> 0	on <u>5</u>	<u> </u>				
LABORATORY Received By SECTION			Ti	ile						Date/Time	
FINAL SAMPLE Disposal Method DISPOSITION					Dispo	osed By				Date/Time	

LIONVILLE LABORATORY INCORPORATED SAMPLE RECEIPT CHECKLIST

LIENT:

TNU Harreford

urchase Order/Project:

DATE:

5 17.03.

AF# | SOW# / Release #:

B03-015

.aboratory SDG #:

13056432 NOTE: ALL ENTRIES MARKED "NO" MUST BE EXPLAINED IN THE COMMENT SECTION Custody seals on coolers or shipping D No ☐ see Comment # container intact, signed and dated? Outside of coolers or shipping containers are Yes Yes D No DNA ☐ see Comment # free from damage? 3. Airbill # recorded? D No D N/A ☐ see Comment # All expected paperwork received (coc and III No D N/A ☐ see Comment # other client specific: historical data, alpha/beta or other screening data as applicable)? (paperwork sealed in plastic bag and taped to inside lid) Sample containers are intact? Yes \square No D N/A ☐ see Comment # Custody seals on sample containers intact, Ų Yes D No. D N/A ☐ see Comment # signed and dated? All samples on coc received? 7. ∕Ú Yes D No □ N/A D see Comment # ▼ Yes · □ see Comment # D No D N/A All sample label information matches coc? Laboratory QC samples designated on coc? □ Yes D No ADVIVA Sec Comment # (QC stickers placed on bottles?) 10. Shipment meets LvLl Sample Acceptance □ No DNA . 🗖 sec Comment # Policy? (identify all bottles not within policy. See reverse side for policy) 11. Where applicable, bar code labels are □ No DAVA □ Yes ☐ see Comment # affixed to coc? DY es D No DWA D see Comment # 12. coc signed and dated? Yes. 13. coc will be faxed or emailed to client? □ No D N/A ☐ sec Comment # 14. Project Manager/Client contacted ETN/A D Yes D No ☐ see Comment # concerning discrepancies? (name/date)

Cooler # / temp (°C) and Comments:

ERC 99055/0.8°-

ERC 96039/0,3°C

Laboratory Sample Custodian:

Laboratory Project Manager:

D. Dmiti